4.2 TRANSPORTATION/CIRCULATION

Existing Conditions

This chapter addresses mobility, or the movement of people and goods, within the City of Lemon Grove. This section is based on the Transportation/Circulation analysis prepared by BRW, Inc.

A. Existing Vehicle Circulation System

In general, the roadway circulation system in the City is a grid network, with major street intersections occurring three to four times per mile. In the southern half of the City, several curvilinear street patterns in the residential areas follow the hilly topography. Most of the roadways were constructed as the City grew, often with inconsistent semi-rural design standards. As a result, most residential roadways lack curbs, gutters and sidewalks.

The northern boundary of the City is defined by State Route 94 (SR-94), which runs in an east-west direction between downtown City of San Diego, and East San Diego County. A number of four-lane arterials, including Massachusetts Avenue, Lemon Grove Avenue and Kempf Street/Skyline Drive, run in a north-south direction, providing access from SR-94 into Lemon Grove. With the exception of Palm Avenue, Broadway is the only four-lane facility running in an east-west direction. The majority of roadways in the City are two-lane collector facilities or local streets.

Roadway Inventory

Figure 4.2-1 illustrates the number of lanes and types of intersection controls associated with the existing roadway system in Lemon Grove. A description of the major roads and collectors is furnished below.

State Route 94. SR-94 is a six-lane freeway which provides the primary regional access to and from Lemon Grove, linking the City to downtown San Diego and East County communities. Freeway access to and from eastbound SR-94 is provided by on- and off-ramps located at Massachusetts Avenue and Lemon Grove Avenue. An eastbound off-ramp is also located at College Avenue, and an on-ramp is located at Grove Street. Westbound on- and off-ramps are located at Lemon Grove Avenue, Massachusetts Avenue and College Avenue. The Massachusetts Avenue on-ramp provides a bypass lane for car pools. There is also an off-ramp at Grove Street. SR-94 splits into SR-94 and SR-125 east of Lemon Grove. While SR-125 continues to the north and connects to Interstate 8, SR-94 continues to the east. Traffic volumes are high on SR-94, particularly during the peak commute periods.

Broadway. Broadway is the only through east-west, four-lane arterial in Lemon Grove. Broadway extends east from Federal Boulevard one block east of College Avenue. Broadway

provides direct access to downtown Lemon Grove and the San Diego Trolley East Line station at the Lemon Grove Depot, which is located just north of Broadway along Lemon Grove Avenue. The trolley crossing at Broadway is gate controlled, and the majority of intersections are signalized. In the downtown commercial area between Lemon Grove Avenue and Grove Street, parking and pedestrian areas are separated from the main traffic flow by raised landscaped islands.

Central Avenue and San Miguel Avenue. Central Avenue and San Miguel Avenue are two-lane collectors providing east-west access from Federal Boulevard to Lemon Grove Avenue through largely residential areas. Sidewalks are absent on most segments. With the exception of two signalized intersections at Massachusetts Avenue and Lemon Grove Avenue, the majority of intersections along these streets are two- or four-way stops.

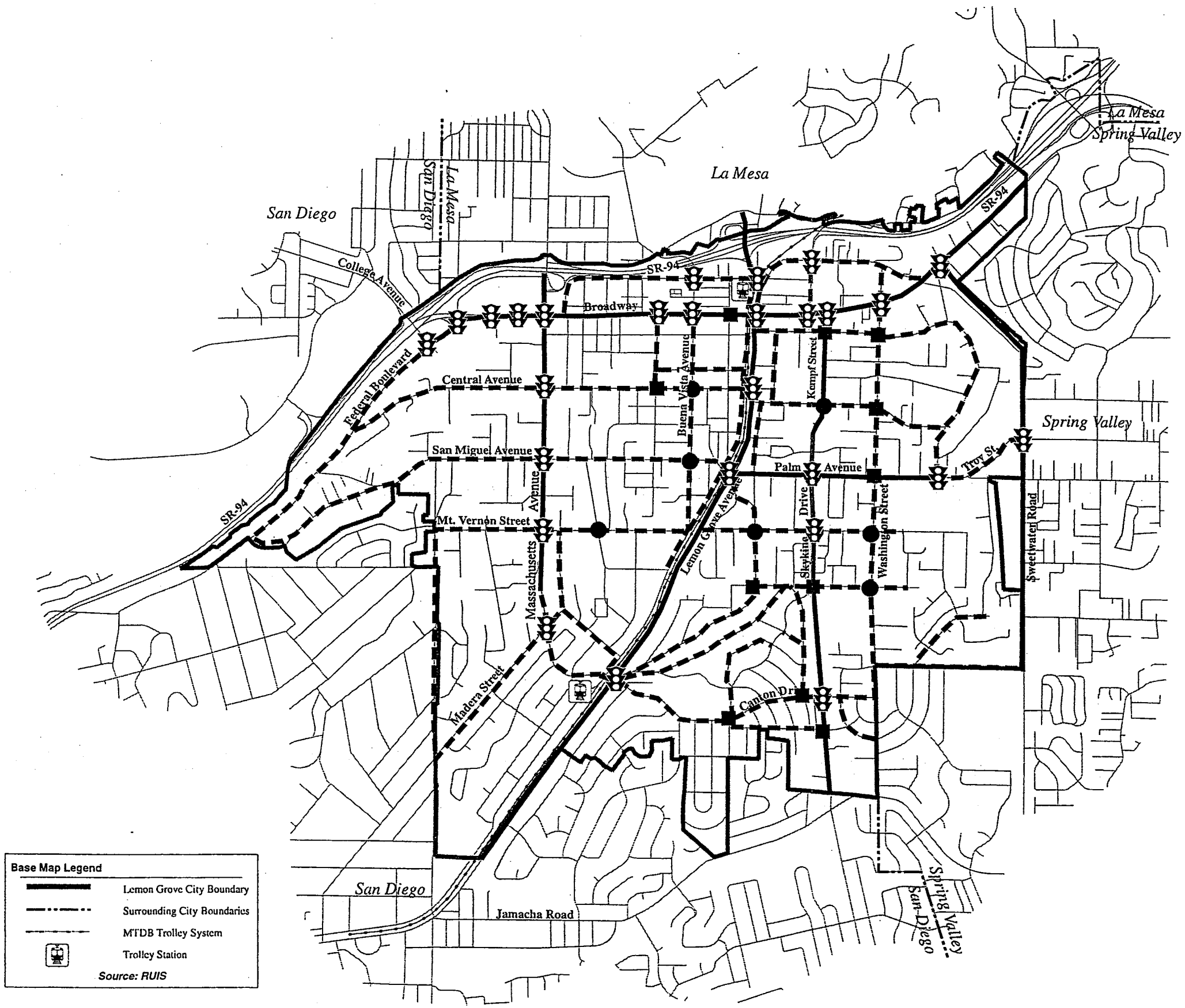
Palm Avenue. Palm Avenue continues from the eastern end of San Miguel Avenue to Troy Street, which continues as a two-lane facility to Sweetwater Road. Palm Avenue is a four-lane arterial between Lemon Grove Avenue and Golden Avenue, linking residential areas with schools near the eastern boundary of the City. Intersections are signalized at Lemon Grove, Skyline Drive and Golden Avenue. Sidewalks and curbs are absent except between Lemon Grove Avenue and Skyline Drive/Kempf Street.

Mt. Vernon Street. Mt. Vernon Street is a two-lane collector street passing through residential areas and provides east-west access to major north-south arterials. Signalized intersections are located at Massachusetts Avenue and Skyline Drive, and four-way stops are located at Bonita Street, Cypress Avenue and Washington Street. In addition, Mt. Vernon Street lacks sidewalks in many areas. Moreover, Mt. Vernon Street is discontinuous at Main Street because there is no trolley crossing.

Canton Drive. Canton Drive is a two-lane collector located near the southern boundary of Lemon Grove extending in a southwesterly direction from the intersection of Lemon Grove Avenue and Massachusetts Avenue. Canton Drive traverses a fairly steep and hilly residential area of Lemon Grove. With the exception of signals at the Lemon Grove Avenue and Skyline Drive intersections, the majority of intersections are two-way stops.

Massachusetts Avenue. Massachusetts Avenue extends south from the City of La Mesa under SR-94 into Lemon Grove. It serves as one of the primary roadways linking residential collector streets to SR-94. This facility is a four-lane arterial from SR-94, to just north of Madera Street. South of this point, Massachusetts Avenue functions as a two-lane collector until it terminates at Lemon Grove Avenue. All of the major intersections along Massachusetts Avenue are signalized.

Buena Vista Avenue. Buena Vista Avenue is a two-lane collector extending from SR-94 south to Main Street, which generally parallels Lemon Grove Avenue on the west side of the trolley line. Signalized intersections are located at Broadway and North Avenue, while the Central



Legend

NUMBER OF LANES

- 2 - Lane Collectors
- 4 - Lane Arterials

INTERSECTION CONTROL

- Signalized
- 4 - Way Stop
- 2 - Way Stop

N

1 inch = 2,000 feet

Source: BRW, Inc. March 1995

Figure 4.2-1
Existing Roadway Conditions

Avenue and San Miguel Avenue intersections are four way stops. Buena Vista Avenue is the only through north-south collector west of Lemon Grove Avenue, providing key access to adjacent residential areas.

Lemon Grove Avenue. Lemon Grove Avenue traverses diagonally through the center of Lemon Grove in a general north-south direction. This facility is a four-lane arterial providing a continuous route through the community parallel to the trolley line. Signals control all major intersections. Lemon Grove Avenue provides important linkages to communities south of Lemon Grove, and channels traffic from area collector roadways to SR-94. South of the City, it transitions into Imperial Avenue, a major east-west connector in southeast San Diego.

Kempf Street and Skyline Drive. Kempf Street and Skyline Drive extend north and south from Lincoln Street and serve as the only four-lane arterials east of Lemon Grove Avenue. The majority of intersections are signalized, with the exception of a four-way stop at Lincoln Street. Remaining collector roadways are subject to two-way stops. These arterials provide key connections to and from newer residential areas and commercial areas in the southwestern portion of the City.

Washington Street. Washington Street is a two-lane collector between Lemon Grove Way and Canton Drive. This facility is the only north-south collector east of Lemon Grove Avenue. With the exception of a signal at the Broadway intersection, all intersections are two- or four-way stops at cross streets. Between Golden Avenue and Broadway, Washington Street allows only one-way, northbound travel.

Sweetwater Road. Sweetwater Road, although mostly under County of San Diego jurisdiction, defines the eastern City limits and borders the community of Spring Valley. This facility is a four-lane arterial extending south from Broadway and continuing into South Bay communities. Signalized intersections are located at Broadway, Troy Street and Blossom Lane. Sweetwater Road serves a high number of regional trips and as a result carries fairly high traffic volumes. This facility will be realigned to the east of the planned SR-125 freeway, which is described at the end of this section.

Functional Classification

Functional classification is a process in which certain elements in a roadway network are grouped into classes according to the service they are intended to provide. The primary function of high level facilities, such as freeways, highways, and major or minor arterials, is to provide mobility. Access to adjacent property is generally restricted to maintain traffic flow. Low level facilities, such as local streets, are designed to provide access to adjacent properties and through traffic is discouraged. Collector roadways provide an intermediate function, providing both access and mobility. Figure 4.2-2 illustrates the functional classification of area roadways.

A key element of the roadway network in Lemon Grove is the major roads, generally termed four-lane arterials. Arterials are designed to carry higher traffic volumes and typically include center medians to separate through lanes and control mid-block access. Broadway, Massachusetts Avenue, Lemon Grove Avenue, Kempf Street/Skyline Drive, Palm Avenue and Sweetwater Road are examples of four-lane arterials.

Collector roadways facilitate both mobility and access, providing necessary connections between local streets and arterial roadways. Collectors typically serve short internal trips or connections to higher level facilities. There are several collector roadways in Lemon Grove, including Central Avenue, San Miguel Avenue, Buena Vista Avenue, Washington Street and Canton Drive.

Roadways which do not fit into arterial or collector classifications are local streets. These roads are designed primarily for providing access to adjacent properties.

Roadway Design Standards

When Lemon Grove incorporated, the City adopted the County of San Diego standards for roadway design. However, right-of-way width on many City roadways do not consistently adhere to these standards. Typical sections based on the County of San Diego standards are illustrated in Figure 4.2-3. Table 4.2-1 identifies the existing roadway and right-of-way widths established for selected individual City streets under County design standards.

B. Existing Traffic Volumes and Operations

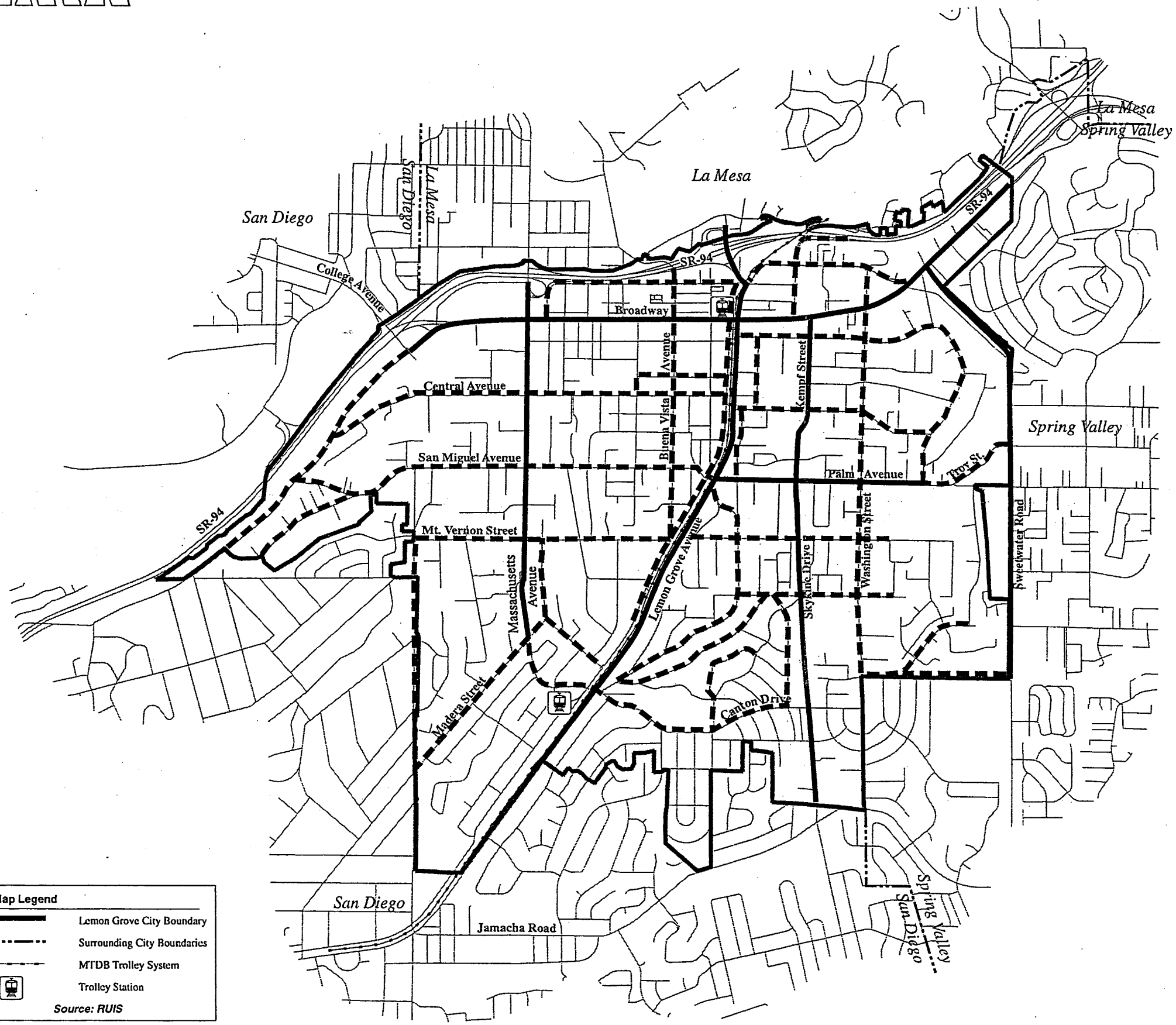
This section evaluates the ability of the roadway system to meet current travel demands. This ability is assessed by comparing existing average daily traffic (ADT) volumes to roadway capacity standards. Traffic conditions on area roadways are calculated using the volume to capacity (v/c) ratios which correspond to level of service (LOS) definitions.

Traffic Volumes

Existing traffic volume data was obtained from the SANDAG report San Diego Region Average Weekday Traffic Volumes, 1989-1993. Traffic volumes for the City of Lemon Grove have not been updated since 1989, and the SANDAG volumes represent the most recent ADT volumes available. Because traffic volumes have increased since 1989, BRW, Inc. conducted traffic counts to update the volumes for this General Plan Update. Figure 4.2-4 shows existing ADT volumes for four-lane arterials and selected collector roadways. Table 4.2-2 summarizes 1989 ADT volumes on key roadways within Lemon Grove.

SR-94 currently has two-way ADT volumes of approximately 150,000. A high proportion of this volume can be attributed to regional trips passing to the north of Lemon Grove. As indicated in Table 4.2-2, the highest average daily traffic volumes in Lemon Grove are found on Broadway

LMA



LEMON GROVE
BEST CLIMATE ON EARTH

General Plan
Master
Environmental Impact Report

Legend

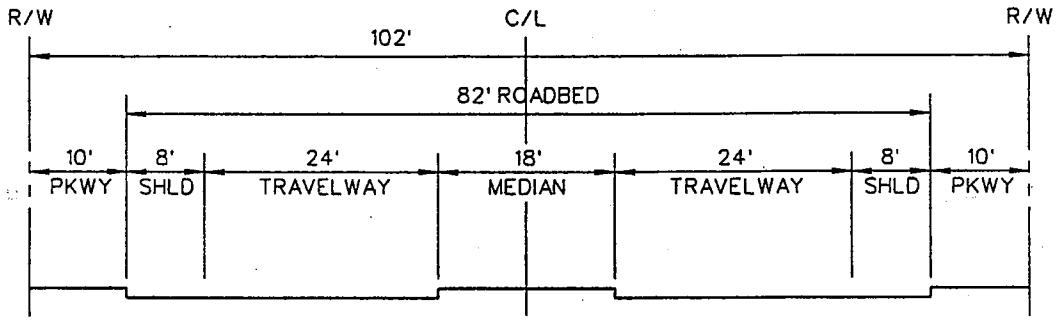
- 4 - Lane Arterial
- 2 - Lane Collector
- Local/Residential Street

N

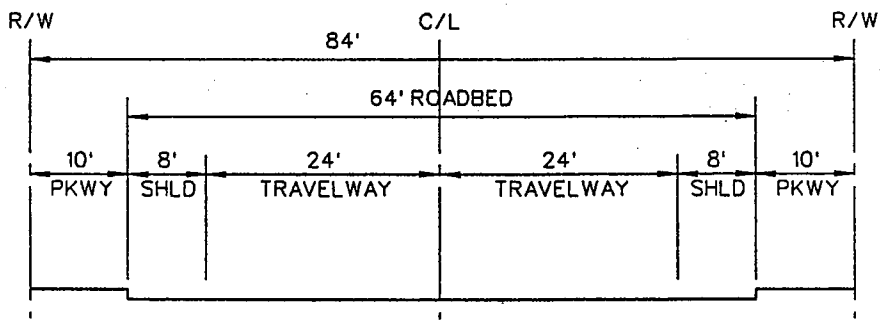
1 inch = 2,000 feet

Source: County of San Diego; BRW, Inc; March 1995

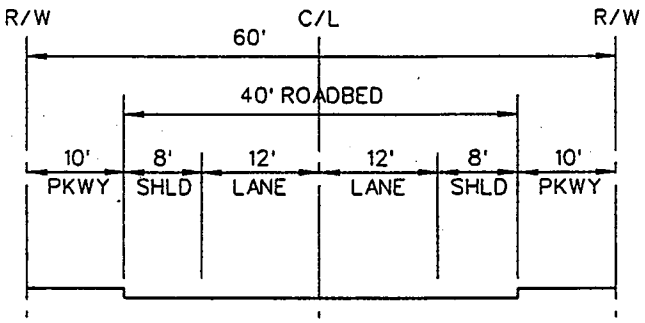
Figure 4.2-2
Existing Functional Classification of Roadways



MAJOR ROAD



COLLECTOR ROAD



LIGHT COLLECTOR

Figure 4.2-3
Typical Cross-Sections San Diego County Standards

TABLE 4.2-1
Roadway Dimensions and Planned Designations

Roadway	Segment		No. of Lanes	Width (ft)	Row (ft)	Classification[1]
	From	To				
Massachusetts Avenue	SR 94	Mt. Vernon Street	4	63	80	Major Road
	Mt. Vernon Street	Madera Street	4	56-63	70-84	Major Road
	Madera Street	El Prado Avenue	2	40	60	Light Collector
	El Prado Avenue	Lemon Grove Avenue	2	60	80	Light Collector
Madera Street	McKnight Drive	Massachusetts Avenue	2	43	70	Light Collector
	Massachusetts Avenue	Sonoma Lane	2	50-63	70-85	Light Collector
	Sonoma Lane	Primera Street	2	63	88	Light Collector
	Primera Street	City Limits	2	52	70	Light Collector
Federal Boulevard	City Limits	700 feet east	2	35	80	Light Collector
	700 feet east	San Miguel Avenue	2	48	100	Light Collector
	San Miguel Avenue	Central Avenue	2	48	91	Light Collector
	Central Avenue	Broadway	2	48	80	Light Collector
Lemon Grove Avenue	City Limits	SR 94	4	80	100	Major Road
Broadway	Federal Boulevard	Olive Street	4	82	100	Major Road
	Olive Street	Lemon Grove Avenue	4	74	88	Major Road
	Lemon Grove Avenue	Grove Street	4	66	80-88	Major Road
	Grove Street	Sweetwater Road	4	82	80 (varies)	Major Road
Central Avenue	Federal Boulevard	Hibiscus Drive	2	30	55	Light Collector
	Hibiscus Drive	Chateau Way	2	30	50	Light Collector
	Chateau Way	600 feet east	2	32	62	Light Collector

TABLE 4.2-1
Roadway Dimensions and Planned Designations

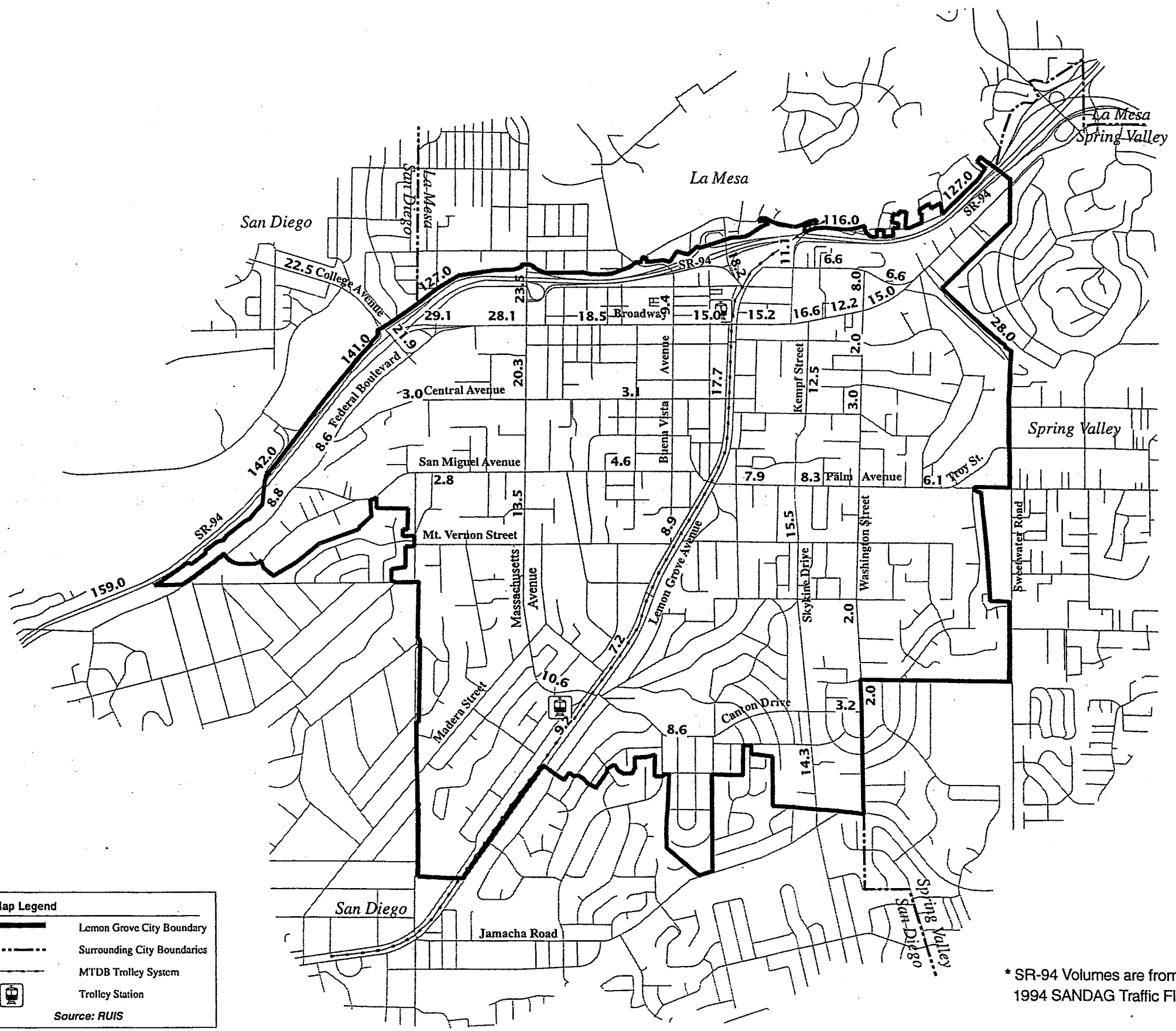
Roadway	Segment		No. of Lanes	Width (ft)	Row (ft)	Classification[1]
	From	To				
Massachusetts Avenue	SR 94	Mt. Vernon Street	4	63	80	Major Road
	Mt. Vernon Street	Madera Street	4	56-63	70-84	Major Road
	Madera Street	El Prado Avenue	2	40	60	Light Collector
	El Prado Avenue	Lemon Grove Avenue	2	60	80	Light Collector
Madera Street	McKnight Drive	Massachusetts Avenue	2	43	70	Light Collector
	Massachusetts Avenue	Sonoma Lane	2	50-63	70-85	Light Collector
	Sonoma Lane	Primera Street	2	63	88	Light Collector
	Primera Street	City Limits	2	52	70	Light Collector
Federal Boulevard	City Limits	700 feet east	2	35	80	Light Collector
	700 feet east	San Miguel Avenue	2	48	100	Light Collector
	San Miguel Avenue	Central Avenue	2	48	91	Light Collector
	Central Avenue	Broadway	2	48	80	Light Collector
Lemon Grove Avenue	City Limits	SR 94	4	80	100	Major Road
Broadway	Federal Boulevard	Olive Street	4	82	100	Major Road
	Olive Street	Lemon Grove Avenue	4	74	88	Major Road
	Lemon Grove Avenue	Grove Street	4	66	80-88	Major Road
	Grove Street	Sweetwater Road	4	82	80 (varies)	Major Road
Central Avenue	Federal Boulevard	Hibiscus Drive	2	30	55	Specific Street
	Hibiscus Drive	Chateau Way	2	30	50	Specific Street
	Chateau Way	600 feet east	2	32	62	Specific Street

TABLE 4.2-1
Roadway Dimensions and Planned Designations

Roadway	Segment		No. of Lanes	Width (ft)	Row (ft)	Classification[1]
	From	To				
Kempf Street	Broadway	Golden Avenue	4	64	71-91	Major Road
	Golden Avenue	Darryl Street	4	50	55	Major Road
	Darryl Street	Lincoln Street	4	56	45	Major Road
Skyline Drive	Lincoln Street	Mt. Vernon Avenue	4	64-66	80	Major Road
	Mt. Vernon Avenue	Alton Drive	4	78	98	Major Road
	Alton Drive	465 feet south	4	62	100	Major Road
	465 feet south	Canton Drive	4	62	100	Major Road
	Canton Drive	City Limits	4	63	82-84	Major Road
Washington Street	Broadway	Golden Avenue	2	31	60	Light Collector
	Golden Avenue	Darryl Street	2	31	60	Light Collector
	Darryl Street	Lincoln Street	2	35	30-45	Light Collector
	Lincoln Street	City Limits	2	25	30-45	Light Collector

Note: [1] Based on County of San Diego roadway standards.

Source: BRW, Inc., City of Lemon Grove, County of San Diego; March 1995.



Base Map Legend

- Lemon Grove City Boundary
- Surrounding City Boundaries
- MTDB Trolley System
- Trolley Station

Source: RUIS

* SR-94 Volumes are from the 1994 SANDAG Traffic Flow Map

Legend

XX - Average Daily Traffic (ADT) Volumes (in thousands)

**SR-94 Volumes are from the 1994 SANDAG Traffic Flow Map*

N

1 inch = 2,000 feet

Source: SANDAG, June 1995

Figure 4.2-4
Existing Average Daily Traffic Volumes

TABLE 4.2-2
Existing Average Daily Traffic (ADT) Volumes

Roadway	Segment	Existing [1] ADT Volumes
Broadway	SR-94 to Massachusetts	29,100
	Massachusetts Ave. to Buena Vista Ave.	18,500
	Buena Vista Ave. to Lemon Grove Ave.	15,000
	Lemon Grove Ave. to Grove St.	15,200
	Grove St. to Sweetwater Rd.	15,000
Lemon Grove Avenue	SR-94 to Broadway	18,200
	Broadway to Palm Ave.	17,700
	Palm Ave. to Massachusetts Ave.	8,900
	Massachusetts Ave. to City limits	9,200
Massachusetts Avenue	SR-94 to Broadway	23,500
	Broadway to Central Ave.	20,300
	Central Avenue to Mt. Vernon St.	13,500
	Mt. Vernon to Lemon Grove Ave.	10,600
Palm Avenue	Lemon Grove Ave. to Troy St.	8,300
Troy Street	Palm Ave. to Sweetwater Rd.	6,100
Kempf Street	Broadway to Lincoln St.	12,500
Skyline Drive	Lincoln St. to Alton Dr.	15,500
	Alton Dr. to City limits	14,300
Lemon Grove Way	Lemon Grove Ave. to Broadway	6,600
Grove Street	Lemon Grove Ave. to City limits	11,100
Federal Blvd.	City limits to College Ave.	8,800
Central Avenue	Federal Blvd. to Main St.	3,100
San Miguel Avenue	Federal Blvd. to Massachusetts Ave.	2,800
	Massachusetts Ave. to Lemon Grove Ave.	4,600
Canton Drive	Lemon Grove Ave. to Skyline Dr.	8,600
Washington Street	Broadway to Palm St.	3,000
Buena Vista Street	Broadway to SR-94	9,400
Sweetwater Road	Broadway to Troy St.	28,000

Note: [1] Existing traffic volumes are based on 1989 traffic counts provided by SANDAG and updated with 1995 traffic counts conducted as part of the Lemon Grove General Plan Update.

near the College Avenue ramps to SR-94, which have approximately 29,100 ADT. High east-west volumes are also found on Broadway, as well as on Federal Boulevard and Palm Avenue. Volumes on San Miguel Avenue are approximately 4,600 ADT and range from 3,200 to 8,600 on Canton Drive.

The highest north-south volumes occur on Sweetwater Road, located just east of the City. Within the City limits, Massachusetts Avenue has the highest north-south volumes, approximately 23,500 ADT. Lemon Grove Avenue also has fairly high volumes of about 18,000 ADT near Broadway. Traffic volumes on Skyline Drive are comparable, while Kempf Street has slightly lower volumes. Grove Street, which provides freeway access to eastbound SR-94 and an off-ramp for westbound SR-94, has volumes of 8,200 to 11,100 ADT north of Lemon Grove Way.

Traffic Operations

Existing traffic operations were assessed to determine the ability of the roadway system to meet local travel demands by comparing the traffic volume data presented in the previous section to roadway capacity standards. As stated previously, the volume to capacity (v/c) ratio was used to determine the operating conditions of the existing roadway system.

Traffic operations are described using level of service (LOS) performance standards. Level of service is a qualitative measure of traffic flow and driver satisfaction with values ranging from A (free flow) to F (over-saturation). Table 4.2-3 provides definitions of LOS A through F. Table 4.2-4 presents the roadway capacities used to examine the relationship between traffic volumes and roadway capacity based on County of San Diego standards.

LOS C or better is generally considered to be an acceptable LOS for roadway segments. Based on the volume to capacity analysis for major arterials and collectors in Lemon Grove, the majority of roadways currently operate at an acceptable LOS. A limited number of roadway segments operate at an unacceptable LOS D or E under current County threshold standards. These segments are summarized in Table 4.2-5.

Preliminary field observations also indicate congestion at key intersection locations. Most notably, congestion is evident at the Lemon Grove Avenue/Massachusetts Avenue intersection and along Broadway, particularly near freeway access points.

Traffic Accidents

The City is currently developing an accident study program. This database program updates accident data on a weekly basis in order to identify high accident traffic locations. The program currently contains information accumulated since March 1992. This program will be ongoing to facilitate the prioritization of street improvements in areas with a high frequency of traffic accidents. According to the City of Lemon Grove Public Works Department, the two highest

TABLE 4.2-3
Level of Service Definitions

Level of Service	Traffic Flow Quality
A	Low volumes, high speed; speed not restricted by other vehicles; all signal cycles clear with no vehicles waiting through more than one signal cycle.
B	Operating speed beginning to be affected by other traffic; between one and ten percent of the signal cycles have one or more vehicles which wait through more than one cycle during peak periods.
C	Operating speeds and maneuverability closely controlled by other traffic; between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; recommended ideal design standard.
D	Tolerable operating speeds; 31 to 70 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; often used as design standard in urban areas.
E	Capacity; the maximum traffic volume an intersection can accommodate; restricted speeds; 71 to 100 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.
F	Long queues of traffic; unstable flow; stoppages of long duration; traffic volume and traffic speed can drop to zero; traffic volume may be less than volumes which occur at Level of Service E.

Source: BRW, 1995

TABLE 4.2-4
Roadway Class and Capacity

Functional Classification	Maximum Capacity (Daily) for LOS C
4-lane Arterial (Major Road)	29,600
4-lane Collector	27,400
2-lane Collector	7,100

Source: County of San Diego, 1995.

TABLE 4.2-5
Roadway Segments Operating at Unacceptable Levels of Service

Roadway	Segment	Level of Service
Buena Vista Avenue	Broadway to SR-94	LOS E
Massachusetts Avenue	Madera Street to Lemon Grove Avenue	LOS D
Canton Drive	Lemon Grove Avenue to Skyline Drive	LOS D
Sweetwater Road	Broadway to Troy Street	LOS D
Federal Boulevard	City limits to College Avenue	LOS D

Source: BRW, Inc.; 1995.

accident locations are the Massachusetts Avenue/SR-94 interchange and the Massachusetts Avenue/Lemon Grove intersection.

Under a separate contract with the City of Lemon Grove, BRW, Inc. analyzed the Massachusetts Avenue/Lemon Grove Avenue intersection and recommended traffic control and geometric improvements to improve vehicular and pedestrian safety. These recommendations were adopted by the City in April 1995 but have not yet been programmed for implementation.

C. Parking

Both on- and off-street parking supply is constrained or inadequate in a number of areas in Lemon Grove. Off-street parking is limited in commercial areas along Broadway and Lemon Grove Avenue. Both of these areas were developed prior to the incorporation of the City and the development and application of parking standards. In a number of instances, discretionary permits have been issued in the past to commercial and residential developments without sufficient parking in place. Recent development along Broadway has included development of large parking lots to serve new commercial facilities such as the new Home Depot facility.

The City Zoning Ordinance contains off-street parking standards which define the number of parking spaces required for new development or an increase in the capacity of a particular use. For commercial uses off-street parking requirements range from one space per 35 square feet of floor area for theaters, to one space per 500 square feet of floor area for large-lot display commercial uses such as automobile dealerships or furniture stores.

On-street parking is constrained in several areas due to the lack of designated on-street parking areas and insufficient roadway right-of-way. On-street parking spaces along Federal Boulevard within the industrial areas are in high demand. Numerous vehicles park alongside the road in the unpaved shoulder area. There is no metered parking within the City. In addition, certain areas have restricted parking, particularly in the downtown area and at the Lemon Grove Depot trolley station, within the "kiss-and-ride" drop-off area. Limited on-street parking, coupled with the lack of adequate off-street parking in the commercial areas, results in an overall need for additional parking and strict adherence to parking standards for future development.

D. Street Maintenance

A preliminary field inventory of the existing street system indicated that varying levels of street maintenance is needed. Maintenance needs include the elimination of potholes, repair of asphalt or concrete cracks, and the installation of curbs and gutters. The City is presently developing a Street Maintenance Program to identify specific improvements or repair for each street. This program, proposed for implementation by 1996, will prioritize each of the street improvements based on the greatest need and funding requirements.

E. Transit

Public transportation in the City of Lemon Grove is provided by the San Diego Transit Corporation (SDTC), San Diego County Transit System (CTS) and San Diego Trolley, Inc. (SDTI), all of which are part of the Metropolitan Transit System (MTS). While SDTC and SDTI are wholly-owned subsidiaries under the authority of the Metropolitan Transit Development Board (MTDB), CTS is a separate entity subject to MTDB policy guidelines. MTDB also has regulatory authority over taxicabs and others forms of paratransit servicing Lemon Grove.

Existing transit service in Lemon Grove consists of the San Diego Trolley East Line, SDTC bus routes and CTS bus routes, including the newly implemented Lemon Grove Shuttle. Senior and disabled demand-responsive services are also provided by the CTS WHEELS program. The County Transit System recently discontinued the Lemon Grove Dial-A-Ride demand responsive system with the implementation of the Lemon Grove Shuttle route. Ridership on Dial-A-Ride was low and the shuttle is considered more cost effective. Transit services are illustrated in Figure 4.2-5 and described briefly below.

San Diego Trolley

The San Diego Trolley East Line extends from downtown San Diego to the City of Santee. Two trolley stations are located within Lemon Grove at Massachusetts Avenue and at the Lemon Grove Depot. Parking is provided at the Massachusetts Avenue station. Bus connections are also provided at both stations.

Trolley service is provided from 5:00 a.m. to 1:30 a.m. Monday through Friday. Frequency is every 15 minutes until approximately 7:30 p.m., at which time it is reduced to 30 minutes. During weekends and holidays, services ends at approximately 11:30 p.m.. Frequency is every 30 minutes except from 11:00 a.m. to 7:30 pm, during which frequency is every 15 minutes. The fare is $1.00 to $1.75 depending on the number of stations involved in the trip.

Bus Routes

San Diego Transit and the County Transit System provide bus transit services to Lemon Grove. SDTC operates routes 4, 11 and 36 within or in the vicinity of Lemon Grove. CTS operates routes 816 (formerly SDTC Route 16), Route 856 and Route 875, the Lemon Grove Shuttle. The Metropolitan Transit System has adopted a uniform fare structure for fixed-route services.

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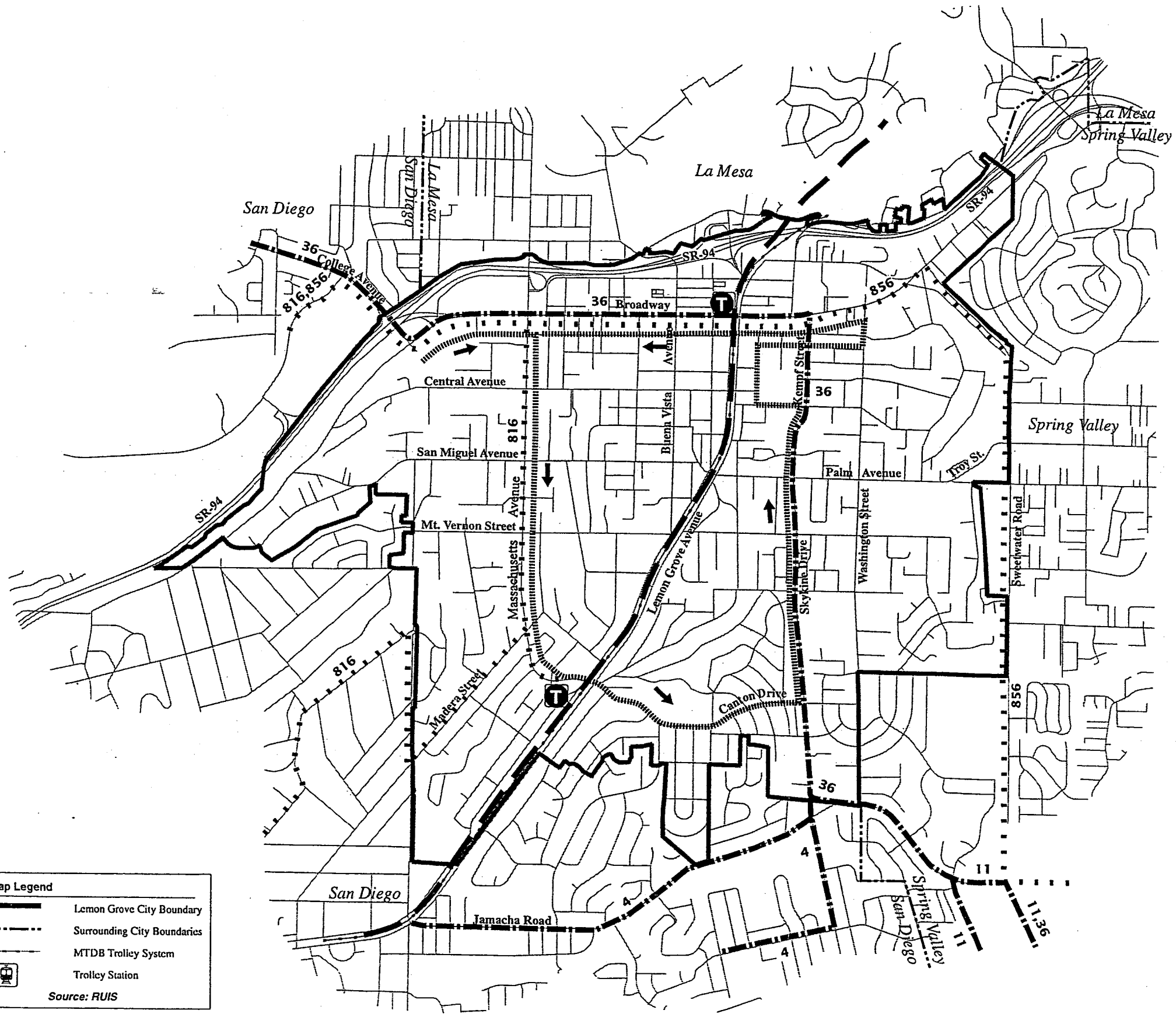


Base Map Legend

- Lemon Grove City Boundary
- Surrounding City Boundaries
- MTDB Trolley System
- Trolley Station

Source: RUIS

Lemon Grove — Best Climate on Earth

General Plan Master Environmental Impact Report

Legend

- San Diego Trolley East Line
- County Transit System (CTS) Bus Routes (816,856)
- Lemon Grove Shuttle CTS Route 875
- San Diego Transit (SDTC) Bus Routes (4,11,36)
- Trolley Station

CTS WHEELS Demand Responsive System - Not Shown

N

1 inch = 2,000 feet

Figure 4.2-5
Existing Transit Service

F. Bicycle Facilities

Bicycle Facilities

The SANDAG Regional Transportation Plan (RTP) classifies three types of bikeway facilities in the San Diego region as defined by the California Department of Transportation (Caltrans):

- **Bike Path (Class 1):** Provides a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with cross-flows by motorists minimized;
- **Bike Lane (Class 2):** Provides restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with travel by motor vehicles or pedestrians prohibited but with vehicle parking and cross-flows by pedestrians permitted; and
- **Bike Route (Class 3):** Provides a right-of-way designated by signs for permanent markings and shared with pedestrians or motorists. These facilities are typically marked with Bike Route signs along roadways.

At the current time, Lemon Grove does not have any designated bikeways within City limits. However, there are opportunities for the implementation of bike routes to link with the surrounding regional bicycle system. Figure 4.2-6 illustrates the location of regional bicycle lanes and routes in the vicinity of Lemon Grove. As shown in Figure 4.2-6, bicycles facilities are located on Imperial Avenue, Massachusetts Avenue and Sweetwater Road with routes terminating at the Lemon Grove City limits. The RTP envisions a number of future routes within Lemon Grove to link with the regional system. Additional unmarked routes as shown on the San Diego Regional Bicycling Map, published by Commuter Computer in cooperation with the City of San Diego, County of San Diego, SANDAG and Caltrans, are also indicated on Figure 4.2-6.

The San Diego Trolley system provides bicycle lockers at the majority of trolley stations. In Lemon Grove, the Lemon Grove Depot provides ten lockers and the Massachusetts Avenue Trolley station provides eight bicycle lockers. All lockers are currently in use, and there is a waiting list for locker space at the Massachusetts Station. Bicycle lockers were recently removed from the Lemon Grove park-and-ride lot at Lemon Grove Avenue and SR-94 due to underutilization.

G. Pedestrian Facilities

Pedestrian facilities in Lemon Grove are generally provided by the sidewalk system. Sidewalks currently exist in most commercial areas and newer residential neighborhoods. However, sidewalks are lacking in many sections, and not continuous in several commercial, industrial and residential areas. Dirt paths alongside roadways are not uncommon.

In many areas of Lemon Grove, particularly in older residential neighborhoods, property directly abuts travel ways and limits the future development of sidewalks. Sidewalks and other pedestrian pathways to link surrounding residential areas with nearby schools are lacking in a number of locations. Several sidewalk projects are being designed by the City of serve areas near schools. As part of the approved residential project for the College Avenue (South) Special Treatment Area (STA IV), a pedestrian trail will be constructed to connect Mt. Vernon Street and San Miguel Avenue.

H. Currently Planned Roadway Improvements

Major transportation improvements are planned for the City, including the SR-125/SR-54 freeway construction project and the signalization of the Massachusetts Avenue/SR-94 interchange. These projects are described below.

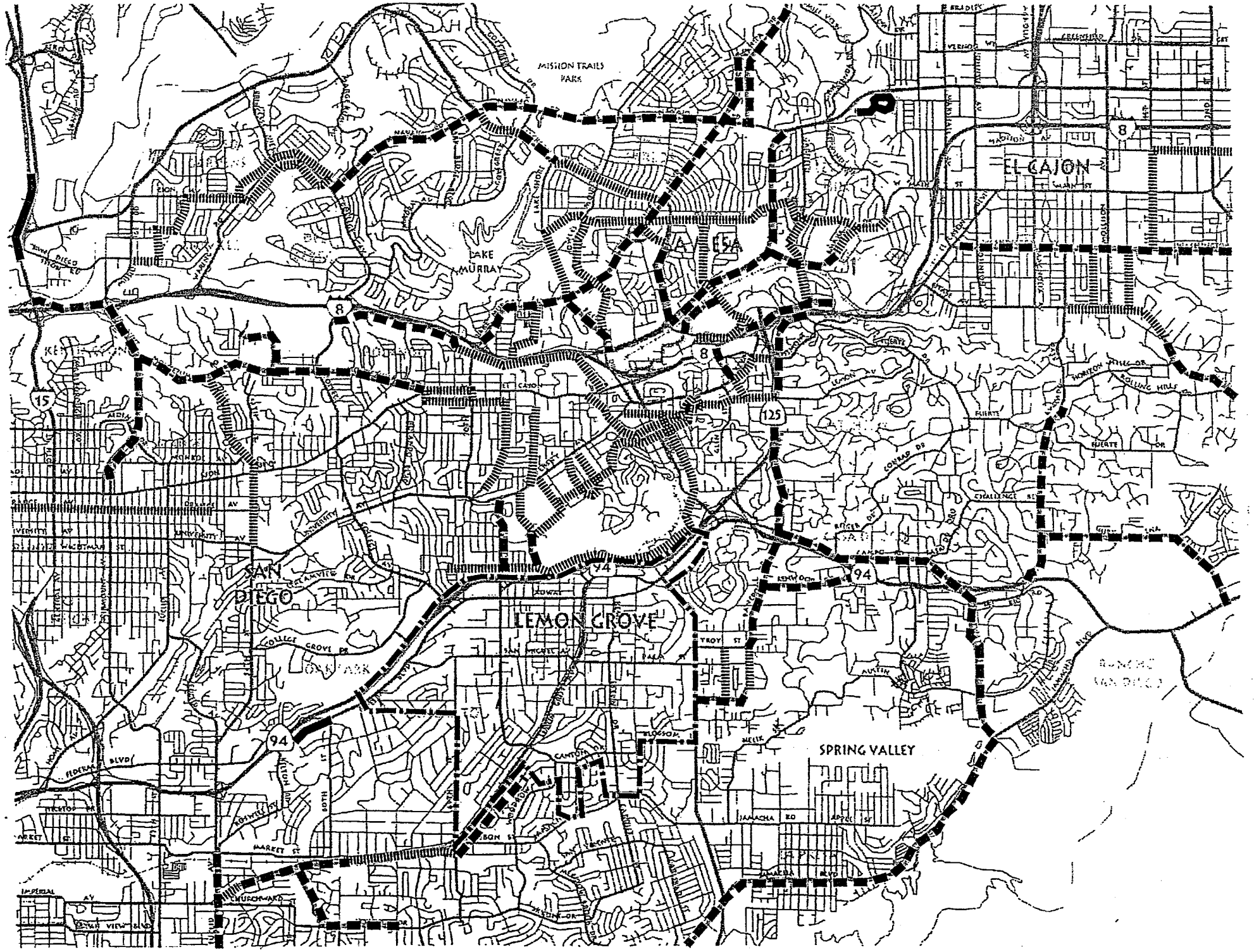
SR-125/SR-94 Freeway Construction Project

Caltrans has recently issued the Final Environmental Impact Statement/Report (EIS/EIR) for the construction of a six-lane freeway along SR-54 and SR-125. The project area is located from approximately 0.7 miles west of Worthington Street in the County of San Diego to the junction with SR-94 in Lemon Grove. The proposed five-mile freeway would complete the final link of the "South Inner Loop" freeway system as envisioned by the SANDAG Regional Transportation Plan.

The Caltrans preferred alternative (Alternative C Design, Variation 3) includes a half-diamond interchange at Troy Street/Palm Avenue and a freeway to freeway interchange at SR-94. The City of Lemon Grove is opposed to this alternative due to concerns of potentially adverse impacts to the local street circulation system and the safety of children at nearby schools. Caltrans and the City of Lemon Grove recently completed negotiations regarding freeway access points along SR-125. The City's Freeway Agreement with Caltrans does not provide for the construction of on- and off-ramps to SR-125 at Troy Street. Even though the City does not believe that on- and off-ramps are warranted at the present, it acknowledges that the community's traffic circulation needs can change over a period of time, and that the ramps could be constructed in the future. The construction of the freeway to freeway interchange between SR-125 and SR-94 will also necessitate the closure of the Grove Street/SR-94 ramps.

Massachusetts Avenue/SR-94 Signalization Project

As stated previously, the Massachusetts Avenue interchange with SR-94 is unsignalized with heavy turning movements, resulting in high accident potential. The lack of vehicle gaps along Massachusetts Avenue results in delays, especially for the south to east and west to south left turn movements. The south to east movement is further complicated with the major entrance to the



Legend

- Lemon Grove City Limits
- Bike Path (Class I)
- Bike Lane (Class II)
- Bike Lane (Class III)

N

Source: SANDAG; BRW, Inc: March, 1995

1 inch = 2,000 feet

Figure 4.2-6
Existing Bicycle Facilities

Lemon Grove Plaza completing the fourth leg of the intersection. This signalization project is tentatively expected to be completed within the next two years.

Thresholds of Significance

Based on the CEQA Guidelines, a project will normally have a significant traffic impact if it will "cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system". Specifically, implementation of the proposed General Plan will result in significant traffic impacts if the plan would :

- Cause traffic volumes that would exceed LOS D on primary and secondary arterials (Class I, II and III Collectors) and local streets; or
- Cause traffic volumes that would exceed LOS D on major arterials (Major Roads); or
- Cause traffic volumes that would exceed LOS E on CMP highways and streets with commercial designations; or
- Conflict with regional transportation improvements and phasing plans.

It should be recognized that the Existing Conditions section utilized LOS C as the capacity threshold for determining roadway segments which operate at unacceptable levels of service as defined by County of San Diego long-range planning guidelines in the Public Facility Element. The proposed General Plan proposes new capacity standards and thresholds, rather than relying on the previously utilized County standards and thresholds. Thus, the following Impacts section utilizes LOS D as the threshold for determining roadway segment impacts. This level of service (LOS D) more closely reflects the threshold utilized by urbanized areas.

Impacts

As discussed in Section 1.1, the majority of the changes in the proposed Lemon Grove General Plan would not result in a physical change. Therefore, with the exception of the Community Development and Mobility Elements, an analysis of proposed policy changes is not provided in this EIR. However, the proposed Mobility Element would result in a physical change. As such, proposed policy changes are addressed in this section, as applicable.

A. Plan-wide

Projected Traffic Volumes

Lemon Grove is generally built-out and has limited opportunities for new development. The land use recommendations in the Community Development Element of the proposed General Plan primarily consist of recommendations for redevelopment and rehabilitation in STAs. As the City redevelops with larger and more extensive commercial land uses, traffic volumes will increase

over existing traffic volumes. Part of this increase in traffic will result from growth in surrounding communities and the region.

Table 4.2-6 presents the percentage increase in traffic volumes projected with the implementation of the proposed General Plan. Figure 4.2-7 displays the anticipated two-way ADT volumes for roadways in and around Lemon Grove. These projected traffic volumes were derived using SANDAG's Series 8 Version 1.0 Regional Travel Demand Model. This model incorporates the proposed General Plan land uses as well as regional traffic growth from surrounding communities. Projected traffic volumes are based on the functional roadway classifications contained in the Mobility Element. As shown in Figure 4.2-7, Broadway, Massachusetts Avenue, Lemon Grove Avenue, and Kempf Street/Skyline Drive will carry the highest traffic volumes and will continue to serve as the core transportation routes. These roadways are the primary four-lane roadways in the City and connect the City with regional transportation routes and destination points.

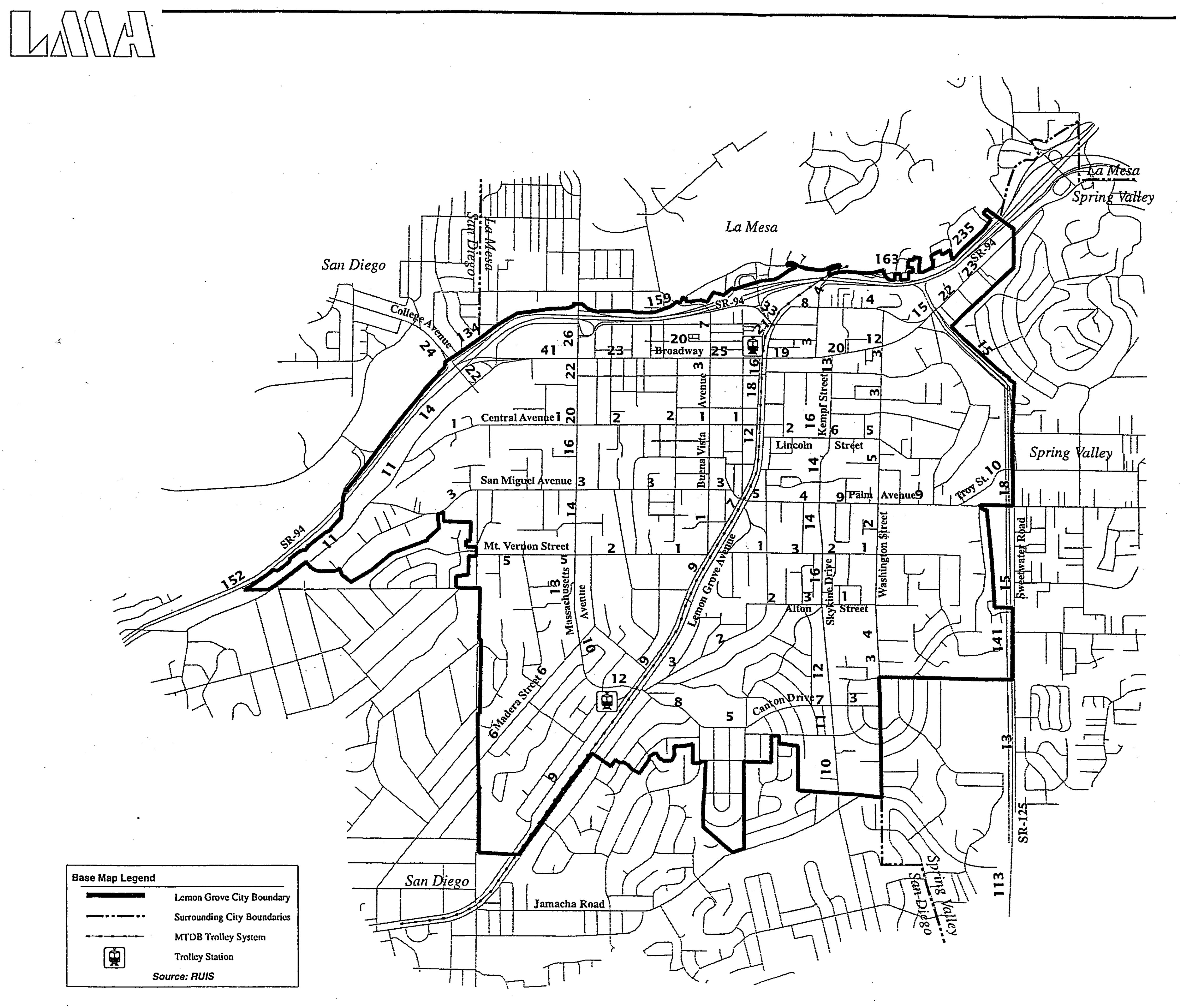
As indicated in Table 4.2-6, the percentage increase on several roadways is considerable. The majority of the existing transportation network has sufficient capacity to accommodate the projected increase in traffic activity. However, certain streets do not have sufficient capacity and are therefore recommended for improvements to ensure safe and efficient traffic flow. The most notable traffic increases are expected on Broadway, Massachusetts Avenue, Troy Street, Kempf Street, Federal Boulevard and Washington Street. Decreases in ADT volumes are projected for such streets as Skyline, Central Avenue, San Miguel Avenue, Canton Drive, Sweetwater Road and Grove Street. Lemon Grove Avenue continues to have underutilized capacity, particularly south of Palm Street. The decreases in volumes on Skyline Drive and Sweetwater Road are attributable to the diversion of through traffic to future SR-125. Grove Street volumes decrease due to the closure of SR-94 access at that location.

Proposed Roadway Circulation Plan

Based on the proposed Land Use Plan and forecasted traffic volumes, the Mobility Element proposes a Roadway Circulation Plan to address potential deficiencies. The Roadway Circulation Plan, illustrated in Figure 4.2-8, is the main feature of the Mobility Element. The Roadway Circulation Plan is premised on a new set of roadway classifications, design standards, and capacity thresholds as discussed below.

The Roadway Circulation Plan includes future SR-125 as a six-lane freeway. A four-lane median within the right-of-way will also be provided for optional future improvements, such as additional traffic or high-occupancy-vehicle (HOV) lanes, or mass transit services. The design selected for implementation by Caltrans includes a full freeway to freeway interchange with SR-94 and a full interchange at Jamacha Boulevard. As discussed previously, no on- and off-ramps are proposed at Troy Street at this time. However, the community's traffic circulation needs can change over

General Plan
Master
Environmental Impact Report



Legend

X = Year 2015 ADT Volumes (in 1000's)

Source: SANDAG, October, 1995

1 inch = 2,000 feet

N

Figure 4.2-7
Forecasted Year 2015 Average Daily Traffic (ADT) Volumes

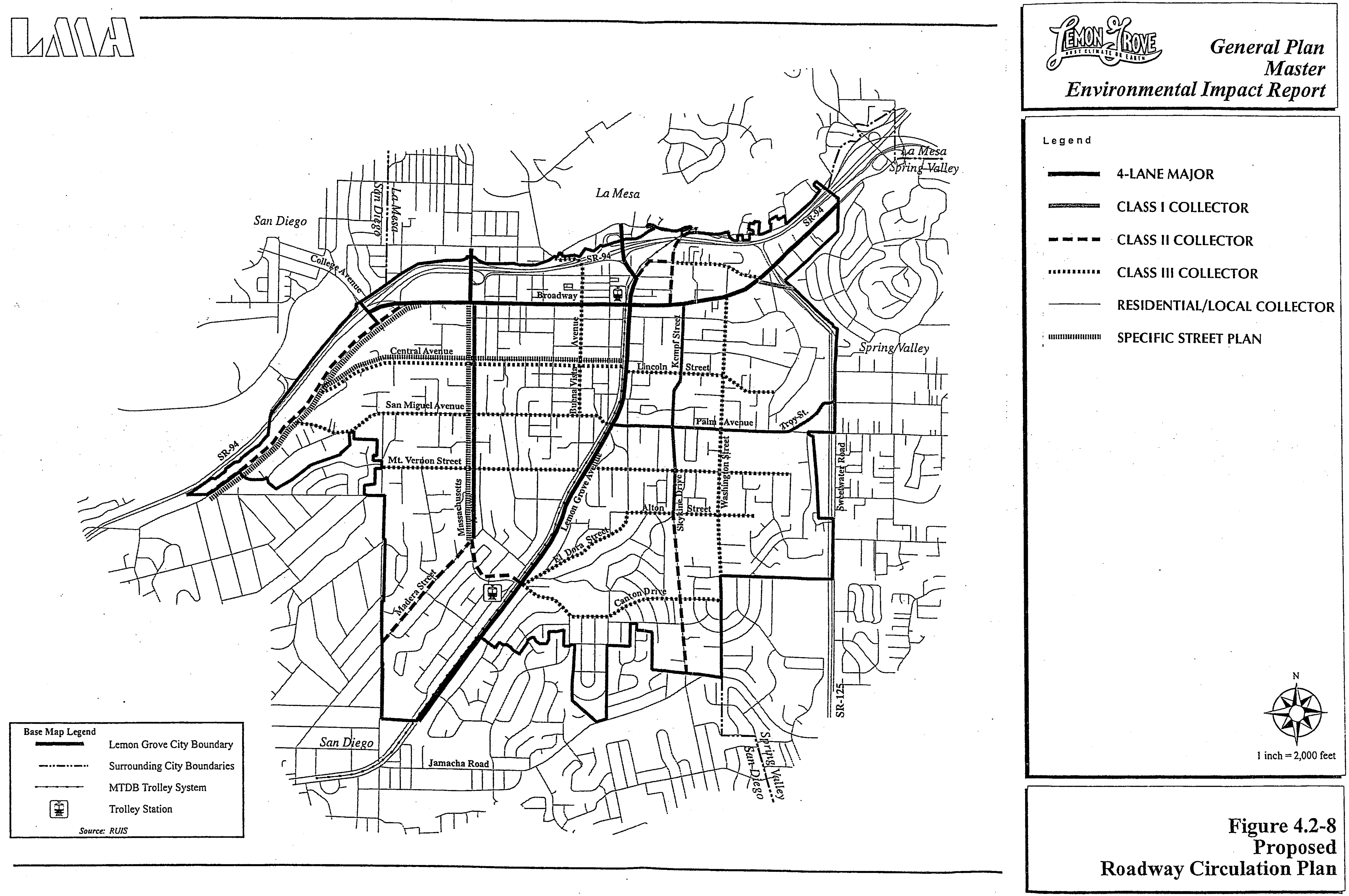


Figure 4.2-8
Proposed
Roadway Circulation Plan

a period of time, and the ramp could be constructed in the future. The land use area within this right-of-way is proposed as a Special Treatment Area.

Proposed Functional Roadway Classifications

Four roadway classifications based upon function are identified in the Roadway Circulation Plan. All of the classifications were derived from the existing County of San Diego standards, with the exception of the Class II Collector, which has been added to better reflect the nature of Lemon Grove's street system. The four types of roadways are defined as follows:

- **Major Road** - A four-lane divided roadway with access and parking controlled as necessary to maintain traffic flow. The primary function of a Major Road is to provide mobility. Access to adjacent properties is a secondary function, and driveway entrance and exit points should be limited. The streets with the highest traffic volumes in Lemon Grove are classified as Major Roads.

- **Class I Collector** - A four-lane undivided road which circulates local traffic and provides access between major roads and neighborhood collectors. Class I collectors are designed to accommodate four lanes of traffic but carry lower volumes at slower speeds than a four-lane major road. Left turn lanes should be provided at intersections with other Class I collectors and major roads. Driveway access should also be limited.

- **Class II Collector** - A two-lane roadway with a two-way center left turn lane. This classification was developed to provide for safer traffic flow in residential or commercial areas with through streets serving as major collectors. A two-way center left turn lane ensures safer driveway access to and from residential and commercial properties by providing a center lane as a "safety net" in high traffic areas where access may be difficult. Class II Collectors are designed to carry two lanes of traffic at lower volumes and slower speeds than the four-lane Class I Collector. Parking would typically be allowed.

- **Class III Collector** - A two-lane undivided road which primarily distributes traffic to and from major roads and higher class collectors, and allows access to adjacent properties and residential streets. Class III Collectors accommodate low volumes and should be designed to discourage through traffic in residential areas. Parking is typically allowed, and may be denied at critical locations (intersections, fire hydrants, utilities).

Local and residential collectors, which are two-lane, undivided roadways providing access to and through Lemon Grove's residential areas, are typically not designated as Mobility Element roadways. These local streets are intended to carry low volumes of local neighborhood traffic.

Table 4.2-6
Projected Increase in Average Daily Traffic (ADT) Volumes

Roadway	Segment	Existing [1] ADT Volumes	Year 2015 ADT Volumes	Percent Change
Broadway	SR-94 to Massachusetts	29,100	41,000	+40.9
	Massachusetts Ave. to Buena Vista Ave.	18,500	23,000	+24.3
	Buena Vista Ave. to Lemon Grove Ave.	15,000	25,000	+66.6
	Lemon Grove Ave. to Grove St.	15,200	19,000	+25.0
	Grove St. to Sweetwater Rd.	15,000	15,000	0
Lemon Grove Avenue	SR-94 to Broadway	18,200	21,000	+15.4
	Broadway to Palm Ave.	17,700	18,000	+1.7
	Palm Ave. to Massachusetts Ave.	8,900	9,000	+1.1
	Massachusetts Ave. to City limits	9,200	9,000	-2.2
Massachusetts Avenue	SR-94 to Broadway	23,500	26,000	+10.6
	Broadway to Central Ave.	20,300	22,000	+8.4
	Central Avenue to Mt. Vernon St.	13,500	16,000	+18.5
	Mt. Vernon to Lemon Grove Ave.	10,600	13,000	+22.6
Palm Avenue	Lemon Grove Ave. to Troy St.	8,300	9,000	+8.4
Troy Street	Palm Ave. to Sweetwater Rd.	6,100	10,000	+63.9
Kempf Street	Broadway to Lincoln St.	12,500	16,000	+28.0
Skyline Drive	Lincoln St. to Alton Dr.	15,500	16,000	+3.2
	Alton Dr. to City limits	14,300	12,000	-16.1
Lemon Grove Way	Lemon Grove Ave. to Broadway	6,600	8,000	+21.2
Grove Street	Lemon Grove Ave. to City limits	11,100	4,000	-64.0
Federal Blvd.	City limits to College Ave.	8,800	14,000	+59.1
Central Avenue	Federal Blvd. to Main St.	3,100	2,000	-35.5
San Miguel Avenue	Federal Blvd. to Massachusetts Ave.	2,800	3,000	+7.1
	Massachusetts Ave. to Lemon Grove Ave.	4,600	3,000	-34.8
Canton Drive	Lemon Grove Ave. to Skyline Dr.	8,600	8,000	-7.0
Washington Street	Broadway to Palm St.	3,000	5,000	+66.6
Buena Vista Street	Broadway to SR-94	9,400	10,000	+6.4
Sweetwater Road	Broadway to Troy St.	28,000	15,000	-46.4

Note: [1] Existing traffic volumes are based on 1989 traffic counts provided by SANDAG and updated with 1995 traffic counts conducted as part of the Lemon Grove General Plan Update.

Proposed Roadway Design Standards

Roadway design standards specify geometry and right-of-way requirements for each classification type. Figure 4.2-9 illustrates typical cross-sections standards by roadway classifications. These roadway design standards are based upon the level of service (LOS) concept and roadway capacity thresholds as discussed in the following section.

Roadway Capacity Thresholds

Table 4.2-7 presents the roadway capacity thresholds by roadway classification. Capacity thresholds are defined in terms of ADT volumes and have a corresponding LOS. LOS C is generally accepted as the design standard for roadways, while LOS D is considered the minimum acceptable LOS. LOS E and F represent significant levels of congestion, and are therefore not acceptable.

TABLE 4.2-7
Level of Service (LOS) Capacity Thresholds

Classification/Definition	Right-of-Way (Ft.)	Travelway (Ft.)	LOS C Capacity (ADT)	LOS D Capacity (ADT)	LOS E Capacity (ADT)
Major Road	98	78	30,000	33,400	37,000
Class I Collector	84	64	22,000	24,800	27,500
Class II Collector	72	52	12,000	13,500	15,000
Class III Collector	60	40	7,500	9,000	10,000

SOURCE: BRW, Inc.; November 1995.

Notes: LOS C is generally used as the design standard for roadway capacity.
LOS D is the minimum acceptable level of service.
LOS E and F are not acceptable.

The addition of a Class II Bike Lane on any facility would increase the cross-section by 10 feet to allow for two bike lanes (five feet each minimum), or make approved trade-offs for parking or lane width if right-of-way is limited. Class III bike routes would share the vehicle lane right-of-way.

Proposed Specific Street Plans

Specific Street Plans have been developed to provide special design standards for streets with unique land use and right-of-way constraints. The plans provide for a safe pavement width and travelway within a modified right-of-way requirement. Table 4.2-8 summarizes the proposed Specific Street Plans.

TABLE 4.2-8
Specific Street Plans

Roadway	Segment		Standard Cross-Sections		
	From	To	Right-of-Way (Ft.)	Travelway (Ft.)	Sidewalk (Ft.)
Central Ave.	Main St.	Federal Blvd.	56	40	8
Federal Blvd.	MacArthur Dr.	College Ave.	86	66	10
Lester Ave.	Lemon Grove Ave.	Grove St.	64	44	10
North Ave.	Vista Ave.	Buena Vista Ave.	60	40	10
Massachusetts Ave.	Broadway	Madera St.	80	64	8

SOURCE: City of Lemon Grove; BRW, Inc.; November 1995.

Additional Roadway System Improvement Strategies

The Mobility Element also highlights several specific strategies to ensure an efficient roadway system as specified by the proposed Roadway Circulation Plan. Improvement strategies have been developed to address the following issues:

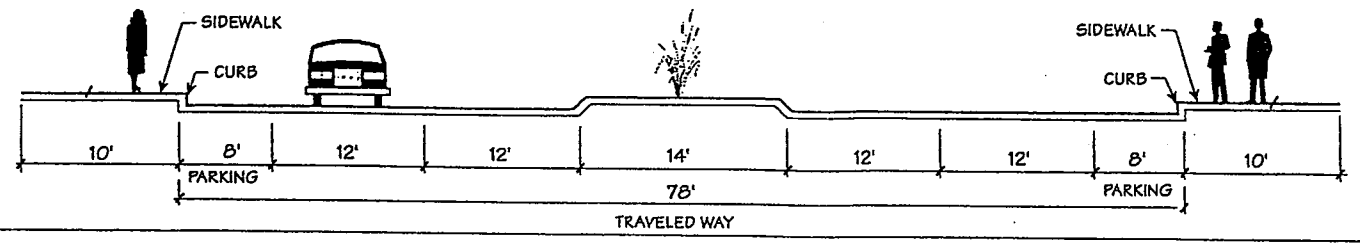
- Traffic Operations. Strategies related to traffic operations include methods to improve traffic flow in congested areas and at trolley crossings. Methods to improve intersection performance at locations identified as problem areas are also included.

- Traffic Safety. Traffic safety focuses on improving traffic conditions at high accident locations and increasing driver, bicyclist and pedestrian safety within neighborhoods and around schools.

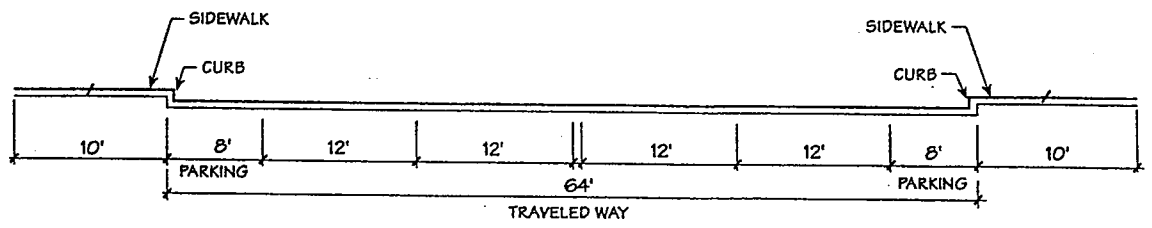
- Neighborhood Traffic Control. Neighborhood traffic control includes methods to discourage non-local through traffic on residential streets by use of various traffic control devices (medians, signs, speed bumps) at key locations to create less convenient through routes.

- Enhanced Regional Access. Regional access enhancements include improvements to ensure safe and convenient access to SR-94 and future SR-125, as well as the maintenance of safe and efficient traffic operations in the vicinity of access ramps.

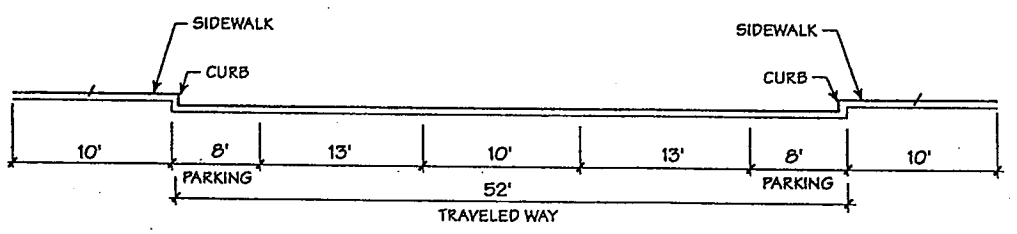
FOUR-LANE MAJOR



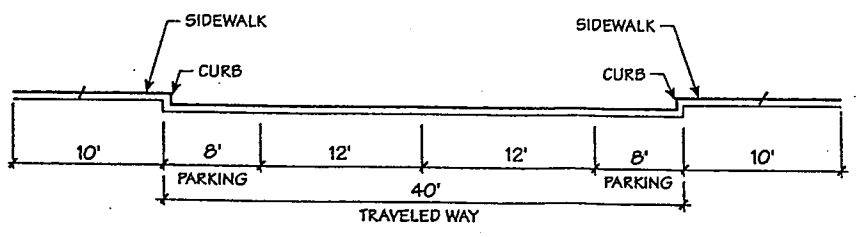
CLASS I COLLECTOR



CLASS II COLLECTOR



CLASS III COLLECTOR



Note: *Total Right-of-Way can vary depending on whether parking and/or sidewalk strip is provided

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LEMON GROVE
BEST CLIMATE ON EARTH

General Plan Master Environmental Impact Report

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Four-Lane Major - A four-lane divided roadway with access and parking controlled as necessary to maintain flow. Primary function is to provide mobility; access is secondary.

Class I Collector - A four-lane undivided road intended to provide access between major roads and local or residential streets; parking controlled as necessary.

Class II Collector - A two-lane roadway with a center turn lane to allow for safe access to and from adjacent properties; parking is typically allowed.

Class III Collector - A two-lane undivided road. The main function is to provide access to adjacent properties and distribute traffic to and from higher class roadways; parking is typically allowed.

N

1 inch = 2,000 feet

Source: BRW, Inc. October, 1995

Figure 4.2-9
Typical Cross-Sections

- Street Maintenance. Improved street maintenance includes the provision for the City to build upon their street maintenance program to identify problem areas in a preventive manner and avoid expensive repairs at a later date.

Future Traffic Operations

For the most part, improvement of the City's roadway network in a manner consistent with the Roadway Circulation Plan will ensure acceptable roadway system operations. As stated previously, most roadways have excess capacity available to accommodate future growth. Due to limited opportunities for new roadway construction or widening, congestion will remain high at a few locations. Based on the LOS capacity thresholds, the following roadway segments are projected to operate at an unacceptable level of service and are thus significantly impacted:

Roadway Segment	Projected LOS
Broadway - College Avenue/SR-94 ramps to Massachusetts Avenue	E
Federal Boulevard - Central Avenue to College Avenue	E
Buena Vista Street - Lemon Avenue to Broadway	E

It should be recognized that the actual functional capacity of roadway facilities vary by the actual characteristics which exist on each facility under review. Typically, the performance and LOS of a roadway segment is based on the ability of arterial intersections to accommodate peak hour volumes. Special designs of intersections will be undertaken to achieve acceptable levels of service.

Table 4.2-9 summarizes the improvements and modifications to City roadways required to implement the Roadway Circulation Plan. The majority of roadway capacity improvements contained in the Roadway Circulation Plan can be accommodated by restriping the existing pavement. One roadway, Massachusetts Avenue between Madera Street and Lemon Grove Avenue, will require additional right-of-way to accommodate the recommended Class II Collector cross-section and bike lanes. Parking is not provided along this curve due to sight distance problems. Federal Boulevard is an adopted Specific Street Plan with wider travel lanes to accommodate the industrial nature of the corridor. All street improvements must consider the potentially significant impacts which can affect neighborhood character and access to businesses. The implementation of sidewalks as part of the improved roadway cross-section will also significantly impact several properties. These impacts are fully described in the subsequent Pedestrian Facilities section.

Due to neighborhood concerns, Skyline Drive, from Alton Drive to the southern City limits, is recommended to be downgraded from a four-lane Class I Collector to a two-lane Class II Collector with a continuous center left-turn lane.

TABLE 4.2-9
Summary of Improvements/Modifications to Circulation Element Roadways
Lemon Grove Roadway Circulation Plan

Roadway	Segment	Existing Lanes	Proposed Lanes	Changes/Right-of-Way Impacts	Bicycle Facilities
Broadway	Federal Blvd. to Sweetwater Rd.	4-Lane Major	4-Lane Major	No change	Recommend striping bike lanes, and signing as bike route between Lemon Grove Ave. and Kempf St. Parking would have to be removed west of Lemon Grove Ave.
Lemon Grove Ave.	City Limits to SR-94	4-Lane Major	4-Lane Major	No change	Recommend striping bike lanes from City limits to Broadway. Parking would have to be removed in most if not all areas.
Massachusetts Ave.	SR-94 to Madera St.	4-Lane Collector	4-Lane Collector	No change. Recommend Specific Street Plan (64'/80').	Recommend striping bike lanes, which will require removal of parking on one or both sides of street.
Massachusetts Ave.	Madera St. to Lemon Grove Ave.	Wide 2-Lane Collector	Class II Collector (2-Lanes with Center turn lane)	Restripe pavement, minor increase in pavement width (additional right-of-way may be needed between Madera and El Prado) with no parking at curve. Improvements to the intersection at Massachusetts/ Lemon Grove Ave., will greatly improve safety.	Recommend striping bike lanes, which will require removal of parking on one or both sides of street.
Federal Blvd. (Specific Street Plan)	City limits to Broadway	Wide 2-Lane Collector	Class II Collector (2-Lanes with Center turn lane); Specific Street Plan	Restripe according to City Specific Street Plan. Lanes are slightly wider due to high use of trucks in area. Also, bike lanes are incorporated into the striping plan.	Recommend striping bike lanes as adopted in City Specific Street Plan.
Central Ave. (Specific Street Plan)	Federal Blvd. to Main St.	Narrow 2-Lane Collector	Class III 2-Lane Collector; Specific Street Plan	No change. Currently, right-of-way is sufficient to improve with sidewalks and curb/gutter, while limiting parking to none or on one side only. Property owners would be impacted in some areas if street was to be brought up to full standards.	None

Roadway	Segment	Existing Lanes	Proposed Lanes	Changes/Right-of-Way Impacts	Bicycle Facilities
San Miguel Ave.	Federal Blvd. to Lemon Grove Ave.	Narrow 2-Lane Collector	Class III 2-Lane Collector	No change. See general comment for Central Avenue.	Recommend signing as a bike route.
Mt. Vernon St.	City limits to Washington St.	Narrow 2-Lane Collector	Class III 2-Lane Collector	No change. See general comment for Central Avenue.	None
Madera St.	City limits to Massachusetts Ave.	Wide 2-Lane Collector	Class II Collector (2-Lanes with center turn lane.)	Restripe pavement to provide safer travel way.	Recommend striping bike lanes.
Buena Vista Ave.	Mt. Vernon to SR-94	2-Lane Collector	Class III 2-Lane Collector	No change. Pavement width on this street is narrow in areas south of Broadway but sufficient right-of-way exists to improve street to standards without impacting right-of-way.	Recommend striping bike lanes north of Broadway. Parking could be retained on one side only. Also, sign as bike route south of Broadway.
Grove St.	Broadway to SR-94	Wide 2-Lane Collector	Class II Collector (2- Lanes with Center turn lane)	Restripe pavement to provide safer travel way; the ramp to SR-94 will be closed with construction of SR-125.	Recommend striping bike lanes. Pavement width is sufficient to keep parking and stripe bike lanes.
Lemon Grove Way	Lemon Grove Ave. to Grove St.	Wide 2-Lane Collector	Class II Collector (2-Lanes with Center turn lane)	Restripe pavement to provide safer travel way.	None
Lemon Grove Way	Grove St. to Broadway	Wide 2-Lane Collector	Class III 2-Lane Collector	No change	None
Kempf St.	Broadway to Lincoln St.	4-Lane Collector	Class I 4-Lane Collector	No change. See general comment for Central Avenue.	Recommend striping as bike lanes. No parking currently provided. Would require up to 8 feet of additional pavement width in some areas if no parking retained. Up to 24 feet if parking is provided.
Skyline Dr.	Lincoln St. to Alton St.	4-Lane Collector	Class I 4-Lane Collector	No change	Recommend striping bike lanes. Parking would have to be removed on one or both sides between Lincoln and Mt. Vernon only.

Roadway	Segment	Existing Lanes	Proposed Lanes	Changes/Right-of-Way Impacts	Bicycle Facilities
Skyline Dr.	Alton St. to City Limits	4-Lane Collector	Class II Collector (2- Lanes with Center turn lane)	Reclassify due to underutilization of present capacity and unsafe conditions for abutting residences.	Recommend striping bike lanes.
Lincoln St.	Lemon Grove Ave. to Washington St.	2-Lane Collector	Class III 2-Lane Collector	No change	None
Palm Ave.	Lemon Grove Ave. to Troy St.	4-Lane Collector	Class I 4-Lane Collector	No change. See general comment for Central Avenue.	Recommend striping bike lanes. Parking would have to removed on one or both sides.
Troy St.	Palm Ave. to Sweetwater Rd.	Wide 2-Lane Collector	Class I 4-Lane Collector	Upgrade and realign with the construction of SR-125 overpass. Additional right-of-way will be necessary to construct overpass.	Recommend striping bike lanes. No parking on SR-125 overpass.
Canton Dr.	Lemon Grove Ave. to City Limits	2-Lane Collector	Class III 2-Lane Collector	No change. See general comment for Central Avenue.	Recommend striping bike lanes. Parking would have to be removed on one side.
Washington St.	Broadway to City Limits	2-Lane Collector	Class III 2-Lane Collector	No change. See general comment for Central Avenue.	Sign as bike route from Palm to Alton.
Alton Dr.	El Dora St. to Washington	Residential Collector	Class III 2-Lane Collector	Add to General Plan as a Circulation Element Roadway.	Sign as bike route from Cypress to Washington.
El Dora St.	Canton Dr. to Alton Dr.	Residential Collector	Class III 2-Lane Collector	Add to General Plan as a Circulation Element Roadway.	None

SOURCE: BRW, Inc.; November 1995.

Peak period congestion will potentially significantly impact major intersections along Broadway, particularly in the Regional Commercial STA III between Massachusetts Avenue and Buena Vista Avenue and the Downtown Village STA I to the east. Intersection improvements will limit peak period congestion along Broadway by addressing the hourly variation in traffic volumes, unique turning movements associated with each location and site specific operational requirements.

Intersection Analysis

While intersection operation analyses are not typical of a General Plan Update, the Lemon Grove Avenue/SR-94 intersection was identified as a problem intersection by the community and City staff. The trolley crossing and intersection with North Avenue increase the complexity of this busy intersection. Thus, this location was analyzed as part of the Mobility Element in order to identify possible improvements to improve operations. The evaluation of current operations has found the intersection to be operating at LOS C during the AM peak period and LOS D in the PM peak period, which is acceptable. The northbound Lemon Grove Avenue left turn and the eastbound right turn from the SR-94 freeway experience the greatest delays. Both of these movements cross the trolley tracks, but were found to operate at LOS D or better. The only movement which experiences LOS E is the eastbound shared left and through movement. An initial investigation into the signal timing and trolley actuation procedures indicate that the long queue lengths and resulting delay occur because the trolley pre-emption appears to begin with the less critical movements. The result is that the heaviest movements in the intersection are the last to be serviced after the train gates open. The initial phases could potentially be set to begin service to the approaches with the higher demand and thus reduce the queue length for those approaches. Future signal enhancements incorporating this suggestion will limit future delays and congestion at this location, particularly for the eastbound left, right and through movements.

While the main feature of the Mobility Element is the Roadway Circulation Plan, the Mobility Element also sets for policies and objectives related to public transit, bicycle facilities, pedestrian facilities and parking. The follow sections provide an overview of each of these key components of the Mobility Element and plan-wide impacts resulting from implementation of the General Plan Update.

Proposed Transit Services and Facilities

The San Diego Trolley is part of the expanding regional rail system that links Lemon Grove residents to other communities and employment centers in San Diego County. Bus routes such as Routes 36, 816 and 856 serve the City and connect with activity centers such as the Massachusetts and Lemon Grove Depot trolley stations, San Diego State University and Marketplace at the Grove. The Lemon Grove Shuttle provides internal circulation for residents.

The implementation of the proposed General Plan will impact the demand for transit services in the City. The total population is projected to increase by approximately 20 percent from

approximately 25,000 to a total of 28,764 residents. The Community Development Element focuses future retail, office and medium to high density land uses around trolley stations and along established bus corridors. Mixed-use developments are designated for 27.6 acres in Lemon Grove and includes approximately 550 dwelling units and thus approximately 1,500 residents living in these areas. Mixed-use developments encourage residents to utilize alternative forms of transportation such as the bus and trolley by providing convenient access to these services. In terms of impacts to the local and regional transit system, the increase in demand for transit facilities is not considered significant given the adequate capacity of the existing transit system to accommodate future increases in ridership.

Increased use of transit will significantly increase the demand for more comfortable waiting space for existing and future bus patrons at major bus stops. Additional transit facilities and amenities including up-to-date timetables and bus shelters will be required. The provision of bus shelters and efficient bus service will also encourage overall transit ridership as an alternative to the automobile.

The provision of public transit service and facilities is an integral component of the Mobility Element. As described in Existing Conditions, the City has a comprehensive mix of public transit services, consisting of the San Diego Trolley, local bus and shuttle services. The Mobility Element strives to increase the use and efficiency of available services through two courses of action, including:

- The provision of convenient access via bus stops or trolley stations, and
- Efficient and frequent transit service levels.

Proposed Bikeway Plan

As stated previously, Lemon Grove does not currently provide bicycle facilities within City limits. The increasing popularity of bicycling and future development of the City will encourage residents to use alternate forms of transportation such as bicycling for short trips or commuting. This will increase the demand for bicycle facilities.

The Mobility Element contains a Bicycle Facilities Sub-Element which serves as the basis for the Lemon Grove Bikeway Plan. The Bikeway Plan will serve local destinations as well as provide linkages to facilitate the connectivity of the regional bikeway system. The regional bikeway system is particularly important as it will provide delineated travel routes for bicycle commuters and local users as envisioned in the SANDAG Regional Transportation Plan.

Figure 4.2-10 presents the Lemon Grove Bikeway Plan. The plan will provide linkages to activity centers such as schools, parks, residential neighborhoods and commercial facilities. In addition, bicycle connections will be provided with other forms of transportation including the trolley, bus, and carpools at trolley stations, bus stops and park-and-ride lots. With the

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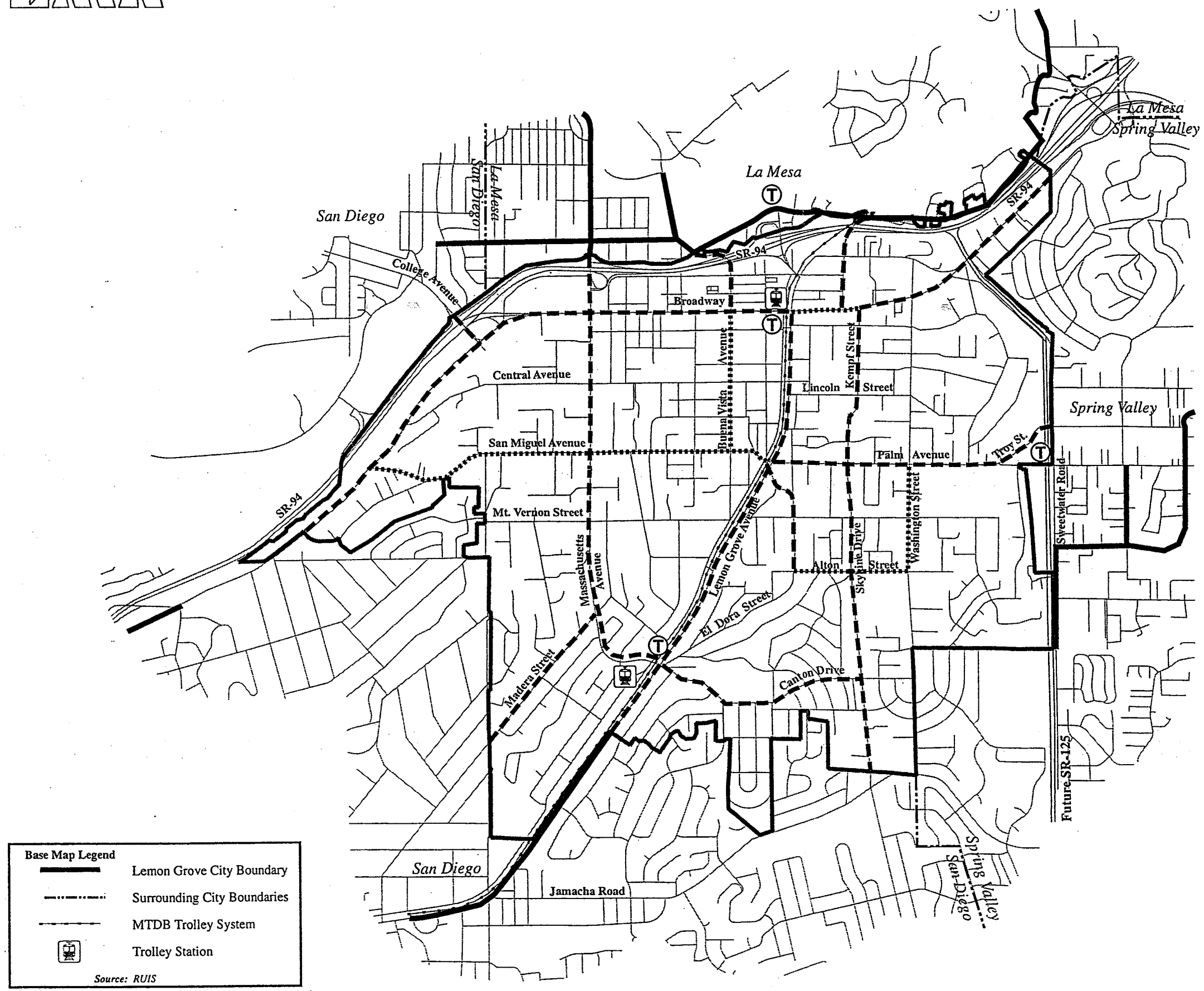

LEMON GROVE
BEST CLIMATE ON EARTH

General Plan
Master
Environmental Impact Report

Legend

- Existing Bicycle Facility
- Recommended Class II Bicycle Lane
- Recommended Class III Bicycle Route
- (T) Transfer Location

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1 inch = 2,000 feet

Figure 4.2-10
Proposed Bikeway Plan

implementation of the Bikeway System, the demand for storage facilities, such as bicycle lockers and bike racks will increase and will be provided at key locations such as shopping centers, parks and transit stations to make the bicycle a more attractive and convenient form of transportation.

Impacts of the Bikeway Plan are addressed relative to the proposed Roadway Circulation Plan and street network. Impacts are analyzed with respect to on-street parking, right-of-way and roadway cross-sections. The Bikeway Plan proposes the implementation of both Class III Bike Routes and Class II Bike Lanes. Class III Bike Routes require that bicyclists share the travel lane with automobiles and "Bike Route" signs at regular intervals on the roadway. Thus, the implementation of Class III Bike Routes will not impact parking, private right-of-way or modify roadway cross-sections. Class II Bike Lanes include striped pavement markings delineating a travelway for bicyclists within the paved area of the roadway. The implementation of Class II Bike Lanes could result in impacts to parking unless roadway design trade-offs are made or additional right-of-way is secured as discussed below.

Table 4.2-9 includes a summary of impacts associated with the implementation of the Bikeway Plan. As indicated in Table 4.2-9, impacts to on-street parking could be significant on several roadways. Impacts to parking will occur on the following streets as existing public right-of-way (ROW) is not sufficient to accommodate full improvement of the roadway, including bike lanes, to the adopted cross-sections:

Roadway Segment	Required ROW *	Existing Public ROW
Broadway - College Ave. to Lemon Grove Ave.	108	88 to 100 feet (varies)
Lemon Grove Avenue - Broadway to City limits	108	100 feet
Massachusetts Avenue - Broadway to Madera St.	94 feet	70 to 84 feet (varies)
Massachusetts Avenue - Madera St. to Lemon Grove Ave.	82 feet	60 to 80 feet (varies)
Buena Vista Avenue - Broadway to north City limits	70 feet	60 feet
Kempf Street - Golden Ave. to Lincoln St.	94 feet	55 feet
Skyline Drive - Lincoln St. to Mt. Vernon Ave.	94 feet	80 feet
Palm Avenue - Lemon Grove Ave. to Troy St.	94 feet	45 to 80 feet (varies)
Canton Drive - Lemon Grove Ave. to Washington St.	70 feet	52 feet
Troy Street - Palm St. to Sweetwater Rd.	94 feet	64 to 70 feet (varies)
Cypress Avenue - Lemon Grove Ave. to Alton Dr.	70 feet	40 to 60 feet (varies)

* Required ROW includes the standard roadway cross-section plus 10 feet to accommodate bike lanes.

Two design options are available for the above streets to reduce the level of parking impact:

1. Secure additional right-of-way (five feet minimum for each bike lane) to maintain on-street parking.
2. Accommodate bike lanes into roadway cross-sections to remove parking on one side only and modify outside travel lane widths as necessary.

As indicated in Figure 4.2-10 several roadways are recommended as incorporating Class II Bike Lanes. Lemon Grove Avenue and Broadway have raised center medians and are fully improved to their ultimate classification. Narrowing the center medians or acquiring right-of-way to implement Class II Bike Lanes are not recommended due to expected high cost. Therefore, the removal of on-street parking will be required along Broadway west of Lemon Grove Avenue and all of Lemon Grove Avenue. This will impact the availability of on-street parking on these two major roads.

New development and redevelopment along Broadway will provide adequate off-street parking for commercial properties. In addition, available on-street parking at cross streets will provide adequate alternative parking areas to alleviate the parking impacts along Broadway, although localized impacts may occur where off-street parking is not sufficient and cross street parking is limited. Parking on the southeast side of Lemon Grove Avenue, particularly in the residential areas south of Palm Avenue will be significantly impacted unless additional right-of-way is acquired. Parking alternatives are constrained along this stretch of Lemon Grove Avenue due to the long blocks and limited cross-streets.

Grove Street, Madera Street, Skyline Drive south of Mt. Vernon, and Broadway east of Kempf Street have sufficient right-of-way to incorporate bike lanes with the implementation of the recommended Roadway Circulation Plan classifications without requiring additional right-of-way. The Specific Street Plan for Federal Boulevard incorporates bike lanes into the adopted cross-section. Thus, the implementation of bike lanes on these roadways has no impact to on-street parking.

The implementation of bicycle facilities will also result in short-term impacts which will affect circulation patterns during the implementation period. Furthermore, an increase in the demand for bicycle facilities and increased use by residents result in safety issues which must be addressed during the implementation of the bikeway plan. An on-going safety awareness program will be an important component to reduce safety impacts to a level less than significant. Impacts to parking facilities are fully described in the subsequent Parking section.

Proposed Sidewalk Facilities

The increase in population and redevelopment efforts associated with the proposed General Plan will increase the demand for pedestrian facilities. Population growth and the focus of retail, commercial and residential uses in mixed-use developments promotes a more pedestrian and transit-oriented environment and encourages residents to walk as a form of transportation. Lemon Grove is a small community and residents enjoy walking to local destinations or for exercise and recreation. The lack of sidewalk facilities is perceived as a problem by residents in many neighborhoods, and presents an unsafe situation which can discourage residents or students from walking to destinations.

The Mobility Element sets forth policies to construct sidewalks along all major and collector roadways on one or both sides of the street, particularly along pedestrian corridors which link activity centers. Figure 4.2-11 illustrates pedestrian corridors within the City. While this will provide a safer, more convenient pedestrian system, the construction of sidewalks will result in significant impacts to several abutting properties unless trade-offs for parking or sidewalks are approved by the community. Impacts to adjacent properties along the following streets will occur as existing public right-of-way (ROW) is not sufficient to accommodate improvement of the roadway, including sidewalks, to the adopted cross-sections:

Roadway Segment	Required ROW	Existing Public ROW
Central Avenue - Federal Blvd. to Main St.	56 feet (Spec. St. Plan)	40 - 55 feet (varies)
San Miguel Avenue - Federal Blvd. to New Jersey Ave.	60 feet	40 - 60 feet (varies)
Mt. Vernon Street - 69th St. to Washington St.	60 feet	50 feet
Kempf Street - Golden Ave. to Lincoln St.	84 feet	55 feet
Palm Avenue - Lemon Grove Ave. to Troy St.	84 feet	45 to 80 feet (varies)
Canton Drive - Lemon Grove Ave. to Washington St.	60 feet	52 feet
Alton Drive - El Dora St. to Washington St.	60 feet	50 feet
El Dora Street - Canton Dr. to Alton St.	60 feet	50 feet
Washington Street - Darryl St. to south City limits	60 feet	30 - 45 feet (varies)
Troy Street - Palm St. to Sweetwater Rd.	84 feet	64 - 70 feet (varies)

The above impacts are based on development of the roadway to its full cross-section. Bike lanes, which are included on Kempf Street, Palm Avenue, Troy Street and Canton Drive will require an additional 10 feet to accommodate two five-foot bike lanes, unless additional trade-offs are approved as discussed in the previous section. Land use impacts associated with the acquisition of additional right-of-way are addressed in Section 4.1, Land Use, of this EIR.

Parking

Adequate and convenient parking is important to residents and business owners alike. Many City streets have been developed without on-street parking. The Mobility Element encourages the implementation of the roadway design standards to ensure adequate pavement and improved on-street parking. Provisions to review off-street parking to reflect changes in land use designations are also included, especially where trip making and parking requirements may be lessened near mixed-use developments and trolley stations.

The demand for both on- and off-street parking will be impacted with the implementation of the proposed General Plan and associated mobility plans. Adherence to off-street parking requirements per the City Parking Standards concurrent with new construction and redevelopment will provide for sufficient off-street parking availability. The implementation of bike lanes along Broadway and Lemon Grove Avenue will further limit the availability of on-street parking.

As stated previously, the implementation of Class II bike lanes will require that parking be eliminated on both sides of the Lemon Grove Avenue and on Broadway west of Lemon Grove Avenue unless additional right-of-way is acquired or the center medians narrowed. Public right-of-way is adequate on Broadway east of Kempf Street to maintain parking and provide for bike lanes. It is estimated that up to 200 parking spaces on Broadway and 350 parking spaces on Lemon Grove Avenue will be removed. The availability of on-street parking will also be significantly impacted along Massachusetts Avenue, Buena Vista Avenue, Palm Street, Canton Drive and Kempf Street unless additional right-of-way is secured or approved trade-offs in the roadway cross-section are made. Maintaining parking on at least one side of the street will be sufficient given the additional availability of parking on nearby cross streets.

Implementation of the Roadway Circulation Plan will provide for paved parking shoulders with curb and gutter improvements in many of the residential neighborhoods throughout the City to ensure adequate and well-maintained on-street parking. As described in Table 4.2-9, improving certain roadways to their full cross-section will impact private right-of-way.

Impact on Planned Improvements

The Mobility Element incorporates the implementation of planned improvements as part of the overall improvement of the transportation system in the City and thus does not impact their future implementation. Future SR-125 will complete an important link in the regional freeway system and will allow through trips to circumvent the City rather than utilize City roadways. While direct access to SR-125 will not be provided with the initial construction of the freeway, Caltrans and the City will monitor the need for an on-ramp at Troy Street for possible future implementation. The Community Development Element has designated the area within the ramp right-of-way as a Special Treatment Area (VII).

The proposed General Plan will result in an increase in traffic volumes along Broadway and on Massachusetts Avenue north of Broadway. This increase in traffic activity will aggravate the existing problem at the Massachusetts Avenue/ SR-94 interchange. The Mobility Element encourages the implementation of the planned signalization project at the Massachusetts Avenue/SR-94 interchange to provide for safer access to SR-94. In addition, signal phasing improvements to the Lemon Grove Avenue/SR-94 intersection recommended previously would reduce traffic delays.

Compliance with the Congestion Management

The San Diego County Congestion Management Program (CMP) was approved in June, 1990, and is intended to directly link land use, transportation and air quality through level of service (LOS) performance. Local agencies are required to conform to the CMP by statute. One of the

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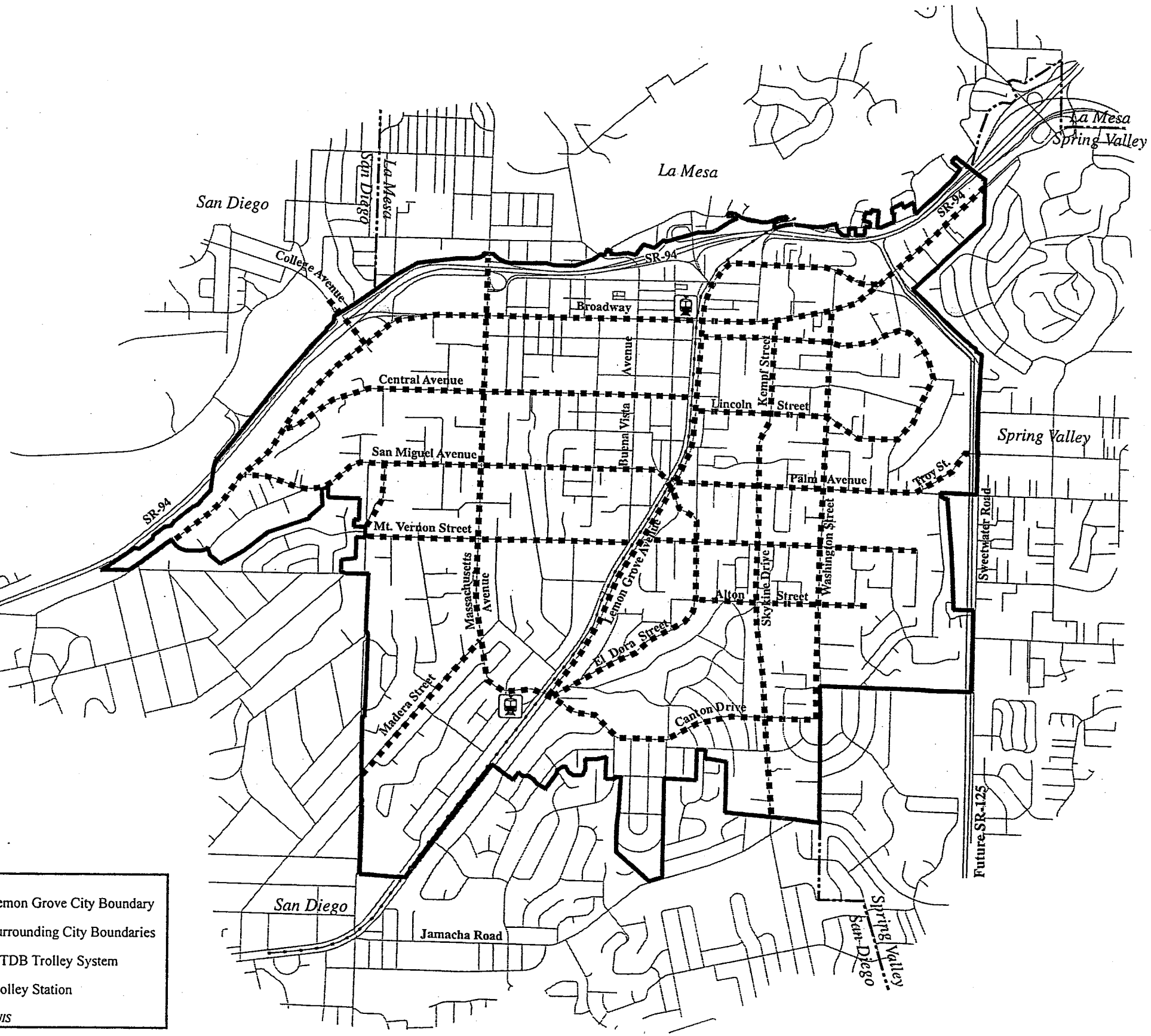

Base Map Legend

- Lemon Grove City Boundary
- Surrounding City Boundaries
- MTDB Trolley System
- Trolley Station

Source: RUIS

LEMON GROVE
BEST CLIMATE ON EARTH

General Plan Master Environmental Impact Report

Legend

- Pedestrian Corridors

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1 inch = 2,000 feet

Figure 4.2-11
Proposed Pedestrian Corridors

elements of the CMP is an enhanced CEQA review process, which applies to all discretionary projects which are projected to generate 2,400 or more average daily trips (ADT) or 200 or more peak hour trips.

The enhanced CEQA review process is intended to identify and mitigate regional transportation impacts of large projects, such as the proposed General Plan. The CMP includes a deficiency plan process directed towards improving travel service on a specific portion of the CMP system forecasted to operate below CMP traffic LOS standards. The CMP minimum level of service standards are LOS E for CMP arterials and freeways, or LOS F if that is the existing level of service.

The CMP facilities under review for the proposed General Plan are SR-94 and Sweetwater Road (interim SR-125). Lemon Grove Avenue is also analyzed as it is considered a regionally significant arterial (RSA) under the Regional Growth Management Strategy, of which the CMP is an element. SR-94 currently operates at acceptable LOS E in the vicinity of Lemon Grove with traffic volumes of approximately 130,000 ADT. Level of service drops to LOS F to the west near the junction of I-805. Sweetwater Road is a four-lane collector under County of San Diego jurisdiction, and currently operates at LOS D. Lemon Grove Avenue currently operates at an acceptable LOS B or better.

With implementation of the proposed General Plan, which includes cumulative growth in the San Diego region, SR-94 will have ADT volumes ranging from 134,000 to 163,000, north of Lemon Grove, and up to 256,000 ADT, east of the SR-125 interchange. These volumes correlate to maintaining LOS E, west of SR-125. However, level of service on SR-94 will drop from LOS E to LOS F, east of SR-125 interchange, and will remain at LOS F near the junction with I-805. Sweetwater Road will improve to LOS B as a large percentage of traffic volumes will be transferred to SR-125. Lemon Grove Avenue will also continue to operate at acceptable levels of service.

Within the jurisdiction of Lemon Grove, all CMP facilities are forecasted to meet level of service guidelines. Impacts to SR-94, east of the SR-125 interchange, will occur under CMP guidelines with or without the proposed General Plan future land use changes. The City of Lemon Grove will participate in a multi-agency study team approach, as necessary to address freeway deficiencies and assist with the development of deficiency plans. This approach involves SANDAG, Caltrans, the Air Pollution Control District (APCD), the Metropolitan Transit Development Board (MTDB) and the affected jurisdictions.

B. STAs and Other Development Areas

Downtown Village (STA I)

The Downtown Village area recommends mixed-use residential (apartments and condominiums), retail, commercial office and public land uses. A wide variety of mobility options will serve this area including the trolley, bus service, bicycle and pedestrian facilities. The proposed redevelopment of this STA will result in higher traffic activity in the Downtown Village. Existing roadway capacity is sufficient to accommodate the increase in traffic volumes on Broadway and Lemon Grove Avenue through this area so as to not significantly impact existing facilities.

Grove Street and Lemon Grove Way, which border this STA to the east and west, respectively, will be reclassified as Class II Collectors. This functional classification will provide more efficient and safer access to the properties in the Downtown Village. This will require restriping existing pavement to provide for two travel lanes and a continuous center left-turn lane rather than the existing wide two-lane configuration. This is not considered to be a significant impact. The Lemon Grove Avenue/Broadway intersection and the Lemon Grove Avenue/SR-94 interchange are two of the busiest intersections in the City and are located in this STA. While impacts to intersection operations are not expected to be significant given the acceptable roadway segment operations, minor congestion during the peak periods can be expected to continue with the redevelopment of the village.

Transit is closely tied to the land use recommendations in this STA. The Lemon Grove Depot trolley station will be in close proximity to the medium- and high-density residential mixed-use development in the Downtown Village, and is a transfer location for bus routes 36, 856 and the Lemon Grove Shuttle. The Bikeway Plan will provide an additional method for residents to travel to, from and within the Downtown Village. Bike lanes will be provided on Lemon Grove Avenue south of Broadway, and Broadway west of Lemon Grove Avenue. The provision of bike lanes will require the removal of on-street parking or additional right-of-way for both of these roadway segments. Bike lanes will also be provided on Grove Street north of Broadway. Because the existing travelway is sufficient to accommodate bike lanes, parking will be retained on Grove Street. A bike route will be signed on Broadway through the downtown area east of Lemon Grove Avenue.

The increase in traffic activity and lively mix of land uses in this STA will significantly impact the availability of parking. On-street parking is currently constrained in the Downtown Village. There are underutilized off-street parking areas to the rear of the commercial and retail facilities fronting Broadway.

Massachusetts Station (STA II)

The Massachusetts Avenue Station STA also recommends mixed-use development to the east of the trolley station, including neighborhood commercial and residential uses. This will provide residents with commercial amenities within walking distance and encourage transit use by residents at that location. The increase in land use intensity at this location will significantly impact roadway performance on Massachusetts Avenue. Traffic volumes will increase by approximately 23 percent on the segment of Massachusetts from Madera to Lemon Grove Avenue, resulting in LOS F for that roadway segment. In accordance with the Roadway Circulation Plan, this portion of Massachusetts Avenue will be improved to a Class II Collector to provide safer access to and from this STA, and improve level of service to an acceptable LOS D. Increased traffic volumes at the intersection of Massachusetts Avenue and Lemon Grove Avenue could increase the potential for vehicular and pedestrian accidents.

As with the Downtown Village STA, transit is closely tied to the land use recommendations in this STA. The increase in demand for transit is not considered to be significant given the existing capacity of the system. The Massachusetts Station will be within walking distance of residents in this STA. In addition, shopping opportunities will be located on site to encourage walking and bicycling. Bicycle linkages will be provided at this location from Massachusetts Avenue, Lemon Grove Avenue and Canton Drive. The mixed-use development and increase in population on this site will increase the demand for bicycle facilities, particularly as the City strives to increase the use of alternative forms of transportation.

Regional Commercial (STA III)

The Regional Commercial STA will generate much of the increased traffic volumes along Broadway. Existing uses north of Broadway primarily consist of commercial, heavy commercial industrial-type uses and scattered residential land uses. Proposed uses consist of large lot regional serving commercial uses. These land uses have higher trip generation rates than residential or commercial/industrial uses, and will significantly increase traffic volumes on Broadway by up to 66 percent in certain areas. This increase in traffic volumes is considered to be insignificant as Broadway will maintain an acceptable LOS C as a four-lane major road in this STA. The Land Use Plan for this area presents the opportunity to consolidate driveway access points as redevelopment occurs which will serve to improve traffic flow on Broadway and to optimize signal timing plans to improve overall traffic flow on Broadway.

This STA is located near the Massachusetts Avenue/SR-94 interchange, which has been identified as a high accident location with heavy turning movements and long delays. Increased traffic activity will result in significant impacts to this intersection. Planned signalization improvements will reduce these impacts to a level less than significant.

The increase in commercial uses will significantly increase the demand for transit, particularly bus service along the Broadway corridor. Existing capacity on regional serving routes as well as the Lemon Grove Shuttle are expected to be sufficient to meet this demand. In addition, bicycle facilities will provide safe and convenient access to commercial facilities but will require the removal of on-street parking along the segment of Broadway within this STA. The removal of parking is a significant impact. Due to the elimination of on-street parking, adherence to parking standards will be important as properties redevelop.

West Central (STA IV)

The land within the West Central STA was originally designated for the extension of College Avenue along the western boundary of the City. Portions of this STA have been developed with low density residential uses. Additional residential dwelling units will increase overall trip generation from this STA and incrementally increase traffic volumes on surrounding roadways. However, existing roadway capacity is sufficient to accommodate additional development on Central Avenue and San Miguel Avenue. The expected increase of traffic volumes on Federal Boulevard can be partially attributed to incremental traffic generated by development in the western portion of the City. Traffic volumes on Federal Boulevard are projected to increase by up to 60 percent. This will result in an unacceptable LOS F with the existing two-lane configuration. Consistent with the Roadway Circulation Plan and the Specific Street Plan for Federal Boulevard, this roadway will be upgraded to a Class II Collector.

San Miguel will be signed as a bike route for use by area residents to access City activity centers In addition, as a condition of development, the planned residential subdivision to the south of this STA is required to implement a meandering pedestrian trail between Mt. Vernon Street and San Miguel Avenue. This trail will increase in demand for connections once users reach either roadway. Thus, sidewalk facilities will be implemented on Central and San Miguel Avenue. Furthermore, in order to provide a continuous pedestrian connection to the redeveloping commercial areas along Broadway, the West Central STA should include pedestrian linkages through future residential development.

Federal Boulevard Automobile Sales District (STA V)

The Federal Boulevard Automobile Sales District is located to the west of the College Avenue/SR-94 interchange. Existing uses in this STA currently support car dealerships and automotive service-related uses. There is no change in the proposed land use designation; rather this STA is proposed to retain these land uses. No significant impacts to traffic operations will result from this STA.

The land uses in this STA require large trucks to access the dealerships. The Federal Boulevard Specific Street Plan is well-suited for this area as it provides for wider travel lanes and a

continuous center left-turn lane. Consistent with the adopted cross-section of the Specific Street Plan, on-street parking and bike lanes will provide for convenient access to this area.

Skyline Commercial (STA VI)

The Skyline Commercial Area designates this STA as a neighborhood commercial center. Existing land uses consists of small commercial land uses and a large church facility. Neighborhood commercial uses generate about ten times more traffic than a church facility, which will significantly increase traffic activity in the vicinity of that site. Traffic volumes may therefore increase over existing volumes along Skyline Drive within this STA. Thus, the impact is potentially significant. Jamacha Road, located under City of San Diego jurisdiction, will be impacted by the increase in traffic volumes, as traffic volumes will increase from 11,700 ADT to 13,000 ADT east of Skyline Drive. While a portion of this traffic activity is attributable to the additional commercial uses on this site, the majority of the increase in traffic volumes is a result of the vehicles accessing the freeway access point at Jamacha Road to SR-125. This impact is potentially significant.

While segment capacity is sufficient to accommodate the increase in volumes, there may be potentially significant impacts to intersection operations in the vicinity of this site. Thus, new commercial development should be required to conduct a traffic impact study to determine improvements to signalized and unsignalized intersections in the vicinity of the project.

Skyline Drive will be downgraded to a Class II Collector as its current four-lane Class I Collector status will remain underutilized. Concurrent with this reclassification, bike lanes will be implemented. These bike lanes and on-street parking will provide a buffer between residential uses and traffic on Skyline Drive. Bus route 36 will continue to provide transit service to this site.

Troy Street/SR-125 Planning Area (STA VII)

STA VII lies in the eastern portion of the city, at the eastern terminus of Palm Avenue and Troy Street. Caltrans plans to construct the SR-125 freeway generally in the vicinity of Sweetwater Road. As discussed previously, no on- and off-ramps are proposed at Troy Street at this time. However, the community's traffic circulation needs can change over a period of time, and the ramp could be constructed in the future. The purpose of STA VII is to alert property owners to the possible construction of the ramps. Development within the STA boundaries can occur according to the provision of the underlying land use category as shown in the Land Use Plan.

SANDAG and Caltrans travel demand projections do not indicate significant differences in traffic volumes with or without the ramps. Thus, construction of the ramps will not significantly impact traffic flow, but will provide residents wishing to travel this corridor with a faster and more convenient alternative to traveling on Sweetwater Road. Construction of SR-125 will require the

realignment of Troy Street to provide for an overpass. Significant short-term construction impacts will result from construction of the freeway. The City will coordinate with Caltrans to ensure that adopted mitigation measures are implemented.

Other Development/Land Use Changes

Multiple-Family Residential Development. New multi-family residential development will increase traffic volumes in areas of emerging multi-family neighborhoods. New multi-family areas will increase the demand for alternative modes of transportation, such as transit and bicycling/walking. Transit capacity is sufficient along this corridor. Consistent with the Mobility Element, bicycle and pedestrian facilities will be provided to meet this increase in use. As specified in the Community Development Element, the following areas have the potential for new medium to high density apartment or condominium development. Impacts to the existing and planned street network are identified also.

- North of Lemon Grove Way. Existing land uses are primarily multi-family in this area with some scattered single-family uses. The potential redevelopment of this area with multi-family uses will increase traffic volumes on Lemon Grove Way. While traffic volumes are expected to increase by approximately 20 percent on this street, existing capacity is sufficient to accommodate the increase in traffic activity. Impacts are not significant.

- South of Broadway between Kempf Street and Sweetwater. Existing land uses are commercial and multi-family. The proposed General Plan replaces approximately half of the commercial land use area with multi-family land uses. Depending on the type of commercial uses and density of residential development, multi-family residential typically generates comparable traffic volumes as compared to commercial use per acre of development. Traffic volumes on Broadway east of Kempf are projected to remain unchanged. No impact to the street network will result.

- East side of Lemon Grove Avenue around Mt. Vernon Street. Existing land uses in this area consist of single-family uses and industrial areas. Multi-family development will result in a slight increase in traffic volumes on Lemon Grove Avenue. However, this is not a significant impact given the excess capacity on Lemon Grove Avenue. Additional multi-family development will significantly increase the demand for parking unless sufficient off-street parking areas are provided on site. The implementation of bike lanes on Lemon Grove Avenue will eliminate on-street parking. This is a significant impact.

- Massachusetts Avenue between Pacific Avenue and Central Avenue. Existing land uses in this area are primarily single family with some multi-family. The proposed Land Use Plan includes medium density residential to replace existing single family

uses. This will generate approximately 40 to 50 additional daily trips per acre of redevelopment. Traffic volumes on Massachusetts Avenue are projected to increase by about 8.4 percent along this segment. This is not a significant impact. The implementation of bike lanes will require the removal of on-street parking on one or both sides of Massachusetts Avenue. Unless sufficient off-street parking areas are provided for new multi-family development, this is a significant impact.

- Central Avenue west of Massachusetts Avenue. Existing land uses are single-family. The redevelopment of this area will generate additional traffic volumes. This is not a significant impact to the street network as sufficient capacity is available to accommodate growth in traffic activity. Furthermore, traffic volumes are expected to decrease along Central Avenue.

- South of Central between Olive and Main Streets. Existing land uses are single-family. The proposed multi-family uses will result in higher traffic volumes along these streets. However, this is not a significant impact. Furthermore, these uses are strategically located near the Lemon Grove Depot and bus corridors to encourage transit use.

- South of Pacific Avenue between West and Buena Vista Streets. Existing land uses are single-family. The proposed multi-family uses will result in higher traffic volumes in the vicinity of this site. However, this is not a significant impact as traffic operations will maintain acceptable levels of service.

Industrial Commercial Areas. Industrial areas are located in the northwest portion of the City along Federal Boulevard. The proposed Land Use Plan promotes the continued revitalization of this area in the future. Revitalization will result in increased business activities and thus increased traffic volumes along Federal Boulevard. Projected traffic volumes on Federal will increase by close to 60 percent in this area. The segment of Federal near College Avenue is expected to operate at LOS E. In accordance with the Roadway Circulation Plan, improvements to this roadway per the adopted Specific Street Plan will better accommodate the high frequency of heavy trucks in this area. Acceptable intersection operations near the SR-94/College Avenue ramps will result in acceptable levels of service on Federal Boulevard. Bike lanes will also be provided in this STA as a component of the Specific Street Plan. Increases in traffic activity in this STA are not significant.

Skyline Neighborhood Commercial Area. A small commercial area is currently located on the west side of Skyline Drive north of Canton Drive. In the past, this location has not been viable for commercial businesses and results in a run-down appearance. Surrounding uses are generally residential in nature. The proposed Land Use Plan will revert this commercial area to single-family residential to fit in with existing uses. This change in land use will not result in an increase in traffic volumes beyond existing levels. Rather Skyline Drive will remain underutilized along this corridor and will be reclassified from a Class I Collector to a Class II

Collector from Alton Street to the southern city limits consistent with the Roadway Circulation Plan. Impacts to the transportation system from the reversion of land use are not significant.

Civic Center Concept Area. The Civic Center Concept Area is generally located within the Downtown Village in the area surrounding City Hall on Main Street. Relocating community and city services in this central location will result in higher traffic activity and may aggravate traffic congestion at the Broadway/Lemon Grove Avenue and Lemon Grove Avenue/SR-94 intersections. The trolley crossing also complicates intersection operations within this concept area. Because this concept area is in a central location which is highly accessible by other forms of transportation, including the trolley, bus, bicycle and walking, the demand for parking may be less than is typical of such a development area. The impacts to traffic operations and traffic flow are potentially significant given the proximity of the trolley and limited access routes to the site from the east.

Mitigation Measures

The following measures are required to reduce the significant transportation/circulation and parking impacts to less than significant. The mitigation measures correspond to applicable programs of the General Plan Implementation Manual, as noted.

A. Plan-wide

Roadway System

Mitigation Measure 4.2-1: The City shall implement needed roadway improvements in conformance with the policies and direction provided by the City's Mobility Element. Improvement priorities shall focus on correcting current deficiencies and ensuring adequate roadway capacity as the City continues to buildout in the future. The City shall prepare improvement plans to address existing deficiencies, including the intersections of Lemon Grove Avenue with Massachusetts Avenue and Lemon Grove Avenue and the access ramps to State Route 94. The City shall also review roadways that will likely need improvement to meet the growth in future travel demands, including Broadway, Federal and Palm Avenue. For each identified improvement, the City shall develop a financial program identifying cost, funding and implementation schedule. The improvement shall then be included in the City's Capital Improvement Program and coordinated with other City and regional programs as necessary. The City shall also monitor the project construction phase to ensure conformance with policies and design standards. (General Plan Implementation Manual, Mobility Program #1).

Mitigation Measure 4.2-2: The City shall monitor the construction of roadway-related improvements, including sidewalk, parking, bicycle facility, restriping, and specific intersection improvements to ensure adequate traffic control for vehicular and pedestrian access, and minimal disruption to surrounding residents, schools, public facilities, and business owners. The City shall

coordinate these efforts with the contractor responsible for the improvements. (General Plan Implementation Manual, Mobility Program #17).

Transit Services and Facilities

Mitigation Measure 4.2-3: The City shall select a design scheme for the City bus shelter program. The City shall encourage aggressive implementation of bus shelters at transit centers and major bus stops. The City shall, in conjunction with MTDB, review on an on-going basis the proximity of bus stop locations to schools, public facilities and other community activity centers. (General Plan Implementation Manual, Mobility Program #20).

Bicycle Facilities

Mitigation Measure 4.2-4: The City shall adopt the Bicycle Facilities Sub-Element as the Bikeway Plan for the City Of Lemon Grove. The City shall coordinate with SANDAG and Caltrans and apply for funding in a timely manner. (General Plan Implementation Manual, Mobility Program #23).

Mitigation Measure 4.2-5: The City shall promote the provision of additional bicycle lockers at trolley stations and park-and-ride lots to provide additional opportunities for this alternative mode utilization for commute trips. The City shall also provide bike racks at local community facilities including the downtown, parks and recreational facilities. The City shall also consider the need to provide storage facilities in all new and redeveloping commercial, office, industrial, high density residential and public properties. (General Plan Implementation Manual, Mobility Program #24).

Pedestrian Facilities

Mitigation Measure 4.2-6: Consistent with the policies and objectives of the Mobility Element, the City shall encourage the provision of sidewalks on one or both sides of the streets where feasible, especially between activity centers such as schools, transit stops, parks and the downtown commercial areas. The City shall conduct an inventory of existing pedestrian facilities and identify deficiencies. Based upon available funding and locations of high pedestrian activity, the City shall recommend sidewalk improvements, especially where options exist to provide pedestrian facilities in conjunction with adjacent roadway improvements. (General Plan Implementation Manual, Mobility Program #26).

Parking

Mitigation Measure 4.2-7: The City shall evaluate alternatives to increasing the supply of parking in areas where parking is proposed for elimination. This may entail the consolidation of driveway access points in commercial areas to provide central rather than dispersed parking

areas for businesses to increase the ground area available for parking spaces. The City shall coordinate this effort with Mobility Program #7, Street Access Guidelines, which calls for guidelines regarding arterial access points and the consolidation of driveways. (General Plan Implementation Manual, Mobility Program #30).

Planned Improvements

Mitigation Measure 4.2-8: The City shall continue to examine methods of improving access to and from SR-94, particularly due to closure of the Grove Street ramps with construction of the SR-94/SR-125 interchange. The City shall coordinate with Caltrans to examine methods of restructuring existing interchanges at College Avenue, Massachusetts Avenue, and Lemon Grove Avenue to provide more direct and convenient access for the residents of Lemon Grove. These improvements shall include the signalization of the Massachusetts/SR-94 as a priority project. (General Plan Implementation Manual, Mobility Program #13).

B. STAs and Other Development Areas

Downtown Village (STA I)

Mitigation Measure 4.2-9: The City shall conduct a detailed traffic operational study of Lemon Grove Avenue/SR-94 intersection for the purpose of identifying traffic signal phasing improvements in conjunction with the Trolley crossing. (General Plan Implementation Manual, Mobility Program #11).

Mitigation Measure 4.2-10: The City shall provide additional directional signage to direct drivers to the off-street parking areas located to the rear of buildings in the Downtown Village. (General Plan Implementation Manual, Mobility Program #29).

Massachusetts Station (STA II)

Mitigation Measure 4.2-11: In accordance with the previous identification of the Massachusetts Avenue/Lemon Grove Avenue intersection as a high accident location, the City shall implement the planned improvements, including roadway striping and median modifications, as adopted by the City Council. (General Plan Implementation Manual, Mobility Program #10).

Regional Commercial (STA III)

Mitigation Measure 4.2-12: The City shall conduct a signal timing optimization and coordination study to improve traffic flows on Broadway and the adjacent cross-street intersections. (General Plan Implementation Manual, Mobility Program #6).

Skyline Commercial (STA VI)

Mitigation Measure 4.2-13: The City shall establish guidelines for Traffic Impact Reports for the purpose of specifying analysis techniques and other requirements for the assessment of traffic impacts related to new development in the City Of Lemon Grove. Intersection capacity and Level of Service shall be determined using techniques prescribed in the Highway Capacity Manual (Transportation Research Board). The City Engineer shall have the final determination regarding appropriate utilization of the techniques included in the Highway Capacity Manual. (General Plan Implementation Manual, Mobility Program #4).

Level of Significance After Mitigation

With implementation of the mitigation measures listed above, the majority of impacts associated with transportation/circulation and parking would be reduced to a level below significance. Localized impacts to parking which will result from implementation of Class II bike lanes will remain significant and unmitigated unless additional right-of-way is acquired, or roadway cross-section design options are implemented.

REVISED TEXT: See Section 11.0, Response to Comment 7